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ON

GARDENING.

BY

GEORGE GLENNY, F.H.S.

AUTHOR OF

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MR. GLENNY, knowing the difficulty experienced by Amateurs in procuring good seeds of particular subjects, has saved each year, fine samples of Balsam, Hollyhock, Dahlia, Geranium, Pansy, and several others, which cannot be matched in the trade.

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* * *Letters on all subjects connected with Gardening answered, when a directed envelope is enclosed to him at DUNGANNON HOUSE, FULHAM.*

GLENNY'S COMPANION, with Portrait, 13 Stamps; Glenny's List of the best Sixty Flower-seeds, on receipt of a directed envelope.

THE HANDY BOOK

ON

GARDENING.

BY

GEORGE GLENNY, F.H.S.

AUTHOR OF THE GARDENER'S EVERY-DAY BOOK, GLENNY'S HAND-BOOK
OF PRACTICAL GARDENING, GLENNY'S HAND-BOOK OF FRUITS
AND VEGETABLES, GLENNY'S PROPERTIES OF FLOWERS,
GLENNY'S GARDEN ALMANAC, ETC. ETC.

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PREFACE.

THE publication of the Golden Rules was hailed by a large portion of the gardening world as a successful attempt to get a great quantity of information into a very small space ; and the only regret that was felt or expressed was, that I had not extended my rules to every department of gardening. The necessity for a reprint has tempted me to enlarge upon the plan, by compressing the very spirit of more costly works into as little room as possible, and to make a pocket volume that contains a library of useful knowledge ; which, without any great stretch of vanity, I may fairly call "The Handy Book on Gardening."

My plan has been to fancy a man who knows little or nothing of cultivation, but desirous of learning, just turned loose upon a bit of ground, without an idea as to how he should begin ; and, moreover, with little time for reading, and without the money to buy any expensive work to learn from, even if he had leisure. The task I set myself was to supply him with a cheap book that he could always have about with him, and find, in a few words, the lessons he required. How I have succeeded, or whether I have succeeded at all, must be decided by the result.

It has been my aim to make the work a kind of remembrancer to all who have a garden ; and to render it, in some degree, useful to those who know their business. I am confident, that many, who think they do, will find information which they cannot meet with so cheaply in any work extant.

Golden Rules have been widely circulated among allotment-holders, and cottagers, and even in schools, although they were never intended to convey a system of general management. I have retained all that were valuable in this little work ; but the reader will find they play a very subordinate part. Much of the present work is new, and even old lessons are in new clothes. I trust they will, by their brevity, command attention, especially among those who have little time to spare, and desire to spend that in their garden ; little money to spend, and would rather lay it out on plants and seeds than on expensive books.

Such as it is it must take its chance. I will, however, say one word on its behalf, for perhaps nobody else will. I have not recommended a single operation that I have not practised myself with success ; nor is there a paragraph which is not founded on experience, during fifty years of active gardening life.

GEORGE GLENNY.

THE HANDY BOOK ON GARDENING.

PEOPLE commence gardening under so many different circumstances, that it is very difficult to give instructions that will apply to all ; but we may at least anticipate the wants of a large number ; and there are many operations that must be performed in the same manner in all gardens ; for instance, draining, digging, trenching, hoeing, raking, mowing, rolling, pruning, grafting, budding, sowing, planting, and so forth ; and a few hints on the best and most handy way of doing these things will be all we shall attempt to offer.

In going into a garden, the first thing to do is to ascertain what your soil is ; trench it all over if there are two spits of good stuff ; if not, only dig, and turn over the bottom spit ; but it is very seldom we meet with things so bad as all this. Learn also if the land has been drained, or if there be a natural drainage, as there is sometimes. If you are going to make a path, dig it out the first thing six or eight inches deep, and then you can throw in all the stones and rubbish that you find in digging or trenching ; for the path will be good for nothing unless you make it with stones or brick rubbish at bottom.

If your garden is to be miscellaneous—vegetable, fruit, and flowers—your edging may be Daisies, Thrift,

Arabus, Box, Parsley, or Strawberries; but edging of some sort there should be. Generally, in a kitchen garden the sunny borders are edged with Strawberries, and the others with Parsley.

DRAINING.—The most important of all is not only good for all crops, but it is the foundation of all good gardening. Drains should be dug three feet six inches deep,—the form of V down to a point, as it were,—from the highest part of the ground to the lowest. If pipes are used, they must be laid end to end along the bottom; a foot may be filled in with bushes or large stones. If the ground is level, the drains themselves must be deeper at one end than the other; say three feet at one end, and three feet six, or even four feet, at the other. If there be a good outlet, so much the better; but if not, you must dig a pond to drain into. It may be that this pond will be too full of water to let the drains empty themselves; no matter,—every pail of water that is drawn out of the pond moves the water in every drain, so that it will not be stagnant. These drains should be about fifteen feet apart; they may all communicate with one across the end, and this to go into the pond. When they are all done, fill in the soil, and leave the extra earth in a ridge along the top, for a good deal of it will settle down. When you cannot get pipes, use the bushes and large stones without them.

DIGGING.—If you are going to dig a piece of ground, make a trench or gutter across one end, and wheel the stuff you take out to the other end; this enables you to fill up the trench by digging the next spit, and so throughout the piece; when you dig the last you fill it up with the stuff that you wheeled away from the first. Amateurs should not get too heavy a spade; indeed, **DRAY'S STEEL DIGGING FORKS** are far better than a spade, for they tear the ground to pieces more than a spade does.

TRENCHING.—This is a sort of double digging. Mark out two feet all across one end of the piece to be

trenched ; dig it out one spade deep all over, and wheel the stuff to a heap at the other end ; then dig it another spit deep, and wheel away the stuff to another heap at the other end. When this trench is made two spits deep, mark another two-foot width ; dig the first spit all over it, and throw it into the bottom of the trench ; and when you dig the second spit, put it on the top. Then you will have filled up the first trench with the soil out of the second ; continue this the whole length of the piece ; and when you have made the last trench, fill in the bottom with the stuff that came off the first spit ; and complete it by using that which came from the second spit. The whole piece is then trenched, and the bottom spit is put on the top.

HOEING.—This is done for various purposes. Crops that are sowed broadcast, that is, sprinkled all over a space, always come up too thickly in some parts to stand. The hoe is used to thin them out, by chopping all the superfluous plants up, and leaving the others at proper distances apart. Hoeing is also necessary to get rid of weeds, to earth up crops, and to make drills to sow seed in.

RAKING generally follows the hoe after it is used to cut up weeds ; for, although we may in hot weather leave the weeds to be dried up by the sun, they should be raked off clean wherever the soil is damp, or there is any danger of rain. The rake is useful to level the soil, to take off great stones, and to rake in seed after it is sown broadcast.

MOWING.—Wherever there is grass it must be mowed. If this is done with the mowing-machine, it may be done in the heat of the day ; but if with the scythe, it can only be done when the dew is on the grass, or before the sun rises. Nothing is more simple than mowing, if the scythe is properly hung or fixed. A steady hand, to keep the scythe level, is all that is required, except the sharpening of the blade as it gets dull ; and this is done with a proper stone or rubber.

ROLLING is essential to grass and gravel-walks, and to be well done it must be well timed. After rains, and as soon as it has soaked into the gravel, and the surface is dry enough to let the roller go over without sticking to it, no time should be lost ; every other job should be left, rather than lose the opportunity of rolling the gravel. As for grass, it should be rolled in the evening, when it is to be mowed next morning.

PRUNING.—Gooseberry and Currant-trees may have all their lateral or side-shoots cut short ; that is, down to half an inch to an inch, leaving the end shoot on ; all branches that grow inward should be cut clean away. Black Currants want no other pruning than weakly branches removed. Wall-trees must have all fore-right shoots cut off, the shoots that grow straight out from the wall ; all weakly branches removed, and the best laid in and nailed to the wall. Orchard-trees should have all the waste wood cut out of the head ; branches that cross or grow inwards removed. The object of pruning is to take away superfluous wood that helps to exhaust the tree, and keeps away light and air. Raspberry-canes only require shortening.

GRAFTING consists in joining the wood of one tree to that of a growing stock, by which means a worthless crab is transformed into a golden pippin, or a fruit-tree that displeases into one that you require ; we could mention twenty ways of grafting, but one would be just as good as another. The only conditions necessary to successful grafting are,—*first*, the stock must be proper, that is to say, one of a similar family ; *second*, the portion of wood to be grafted, and the stock it is to be grafted on, must be cut so as to fit very neatly ; *third*, the barks of the stock and the graft must meet on one side at least, without which no union can take place ; but two parts must be cut smooth, so that they set close, and the barks actually touch on one side, and the graft will be safe ; *fourth*, they must be tied firmly, and the external air be excluded by clay, or

composition, or grafting wax ; *fifth*, the operation must be performed at the right season, namely, before the stock starts into growth, and when the graft is dormant.

BUDDING.—This is a very simple operation ; the bud, with a portion of bark, is taken from one tree, and, by means of a slit, the bark of another is lifted, and the bud tucked in. Here it will grow as it would have grown on its own tree. This is done, to a great extent, with Roses, Plums, Peaches, Nectarines, and other subjects. Ladies amuse themselves by inserting buds of different Roses on the same tree. The process of budding is simple. There is a bud at the base of every leaf. Shave out a bud with its leaf on a portion of bark, say half or three quarters of an inch long, half below and half above the leaf, cut a slit an inch long down the portion of stock that is to receive it, and half way down make a cross slit ; by tucking in the thin handle of a budding-knife, you can raise the bark from the wood on both sides, and slide the bud in under the bark, which must be tied down upon it. A bunch of damp moss tied over loosely to keep off wind and sun is not lost time.

PLANTING TREES AND BUSHES.—If the soil is loose about the roots, the plant cannot thrive. In planting trees, bushes, and so forth, the collar of the plant must be even with the surface. It is ruin to a tree to put any of the stem below the surface ; and when planted properly, a tree must be fixed in its place somehow by stakes or ties ; for if the wind disturb a tree after the roots are firmly trodden in, the fibres must be broken or torn.

ESPALIER FRUIT-TREES are better adapted to small gardens than standards would be, because, being trained out like a fan, they may form a back to all the principal borders, or there may be a row here and there across the ground ; they are trained the same as they would be on a wall. One advantage is, that they are always

within reach for thinning the crops and vegetating the number.

FLOWER BORDERS.—There are certain little matters to be borne in mind here. In sowing annuals, nearly all will bear planting out ; very few ought to be sown where they are to blow ; the exceptions are Larkspurs, Erysimum, Coreopsis, Candytuft, of which, however often thinned out, there ought not to be more than half-a-dozen left. Lupins, Convolvulus, Phlox Drummondii, India Pink, Stock Aster, Thunbergia, &c. may all be sown with or without heat, but should be planted out, and not one of them should be planted nearer than six inches apart : three in the shape of a triangle look the best.

All we need add here is a bit of advice about tools and implements you want to start with : a spade, a digging-fork, large and small hoe, a large and small rake, trowel, pruning and budding-knife, an iron-shoed dibble (mark feet and three-inch notches on all the handles of your rakes and hoes) ; three watering-pots, large, middling, and small for watering seeds and seedlings ; hammer, nails, and shreds, if you have any wall or house to grow against : and, thus equipped, we think you may commence gardening with the few rules that you will find in this book.

SOWING.—Seeds require to be covered, that they may not be blown away with the wind, nor be exposed to the depredation of birds ; a covering also, however slight, keeps the moisture in. Seeds are sown in drills, in broad-cast, or by dibbling. Peas, beans, and indeed seeds in general, do not all vegetate. Some samples are half dead seeds ; others, about one-fourth dead ; and on that account we have to sow thicker.

Seed should be sown when the ground is in good order, and be very carefully covered ; a single pea exposed might attract an enemy that would rout every one out ; when, if well covered, a thousand might fly over without being attracted. The principal thing to

attend to in sowing seeds is to sow them evenly and thinly over the space allotted to them.

QUANTITIES.—A pint ought to sow 60 feet of Peas ; 80 feet of Beans ; 160 feet of Kidney Beans ; an ounce of any of the Cabbage tribe would sow a seed bed of 8 square yards ; an ounce will do 150 feet of Carrots in drills ; an ounce of Onion will cover 9 square yards ; an ounce of Parsley will sow 50 feet of drill or of edging ; an ounce will do 150 feet of drill of Beet or Wurzel ; half an ounce would do 10 square yards of Turnips.

PLANTING OUT.—When the seeds are up in seed-beds, from which they are to be transplanted, they will be found too thick in some places ; they should be thinned soon after they are up, or they would draw up weakly ; but in small gardens, and among amateur gardeners, it is common to prick them out very small, instead of hoeing them out and wasting them ; which pricking out is, after all, only planting. Our rule then in planting out small things is, always to tread the ground hard, and rake it even ; you can then plant out the smallest thing, firm and solid : whether you are pricking out Cabbage, Cauliflowers, Brocoli, Lettuce, or any other small seedlings, the advantage of firm ground cannot be over-rated. To go from small planting to larger, you must contrive to force or press the ground to the roots firmly.

ROTATION OF CROPS.—None of the same family of plants should be grown on the same spot without an intervening crop. The following is a good rotation :—Onions, Lettuce, one of the Cabbage tribe, Carrots, manure, Turnips, or the Cabbage tribe of some sort, Celery, Peas, Potatoes, manure ; but recollect that the Cabbage tribe comprises Cabbage, Brocoli, Cauliflower, Brussels Sprouts, Borecole, &c. These never do well after each other generally, if this rotation be not adhered to. Take care that fibrous-rooted subjects should be followed by tap or bulbous-rooted.

DISTANCE AT WHICH VEGETABLES SHOULD BE PLANTED.

—Whether seedlings are hoed out to thin them, or planted out to grow, the distances should be attended to. For instance, Onions should be four to six inches apart; Turnips, Carrots, and Winter Spinach, six to eight inches; Parsnips and Beetroot, nine inches. In planting out, Lettuce should be a foot apart, Cabbage eighteen inches; Cauliflower and Large Brocoli, twenty-four inches; Dwarf Potatoes, nine inches in the row, and eighteen from row to row; Tall Potatoes, twelve inches in the row, and twenty-four inches from row to row; Dwarf Peas—rows two to three feet apart; Tall Peas, five to six feet; Broad Beans, two feet; French Beans, two feet; Scarlet Runners, six feet; Summer Spinach, four inches in the row, a foot from row to row, if broad cast, six inches; Asparagus, twelve inches.

NUMBER OF PLANTS FOR A ROD OF GROUND (viz. sixteen feet and a-half square).—6 inches apart, 1069 Plants; 8 inches, 612 Plants; 10 inches, 392 Plants; 12 inches, 272 Plants; 15 inches by 10, 261 Plants; 30 by 12, 108 Plants; 30 by 18, 72 Plants; 30 by 24, 55 Plants; 30 by 30, 43 Plants; 36 by 30, 38 Plants.

SOWING AND PLANTING SEASON FOR VEGETABLES.

MAIN CROPS.—*Jerusalem Artichoke*, April; *Asparagus*, December, January; *Beans* (Broad), March; *Beetroot*, March; *Cabbage*, August (middle), to go over winter—March, for summer. These two sowings supply for planting, as room offers. *Brocoli* of all sorts, April and June; *Cauliflower*, August, to keep over winter for spring planting or hand-glass culture—April, for summer; *Celery*, March and April, plant out as soon as ready; *Corn Salad*, August, to stand the winter where
Herbs of all sorts, April; *Horseradish*, plant in
 April; *French Beans*, April; *Scarlet Beans*, May;

Leeks, March ; *Lettuce*, February to June ; *Nasturtiums*, April ; *Onion*, February and March ; *Parsnip*, February and March ; *Peas*, February, but they may be sown every month from November to July ; *Potato*, February, March, and April ; Poole's *double-cropping Kidney* also in July ; *Radish*, February, March, and April ; *Turnip Radish*, in April and May ; *Chalot or Eschalot*, November and February ; *Spinach*, February, March, April, and May, for summer—August, for winter ; *Turnip*, April to August.

FRUIT-TREES.—*Plant* as soon as possible after the fall of the leaf ; but they may be planted safely till the buds begin to swell, and never plant them deeper than they have been growing. Prune as soon as you please after October.

STAKING NEWLY-PLANTED TREES.—Drive three stakes into the ground firmly, about a foot from the tree at equal angles ; put a handful of straw round the tree to prevent a tie from injuring the bark, and make a cord fast to a stake ; put it once round the tree, and then round another stake ; bring it back round the tree, and then round the third stake ; pass it once more round the tree, and fasten off at the first stake.

Another mode of staking is to drive the stakes sloping towards the tree, and let the ends cross. The straw must then be put round the bark to protect it, and the whole tied firmly.

SORTS OF FRUITS BEST FOR LIMITED GARDENS.

PEARS.—William's Bon-cretien, Bergamot, Winter nelis, Maria Louisa, Glout Morseau, Jargonelle, Van Mons Leon le clerc.

APPLES.—Blenheim Orange, Ribston Pippin, King of Pippins, Golden Pippin, Nonpareil, Kerry Pippin, Femes Pippin ; and for kitchen, Norfolk Beaufin, Russet, and French Crab.

PLUMS.—Green Gage, Coe's Golden Drop, Queen Victoria, Chapman's Prince of Wales, Royal Hative; and for preserves, &c. Winesour.

CHERRIES.—Biggareau, Black Tartarian, Mayduke, Elton, Late Duke; and for tarts, &c. Morello.

APRICOTS.—Large Early, Moor Park, Royal Orange, and Breda.

PEACHES.—Grosse Mignon, Noblesse, Royal George, Barrington, Late Admirable.

NECTARINES.—Elruge, Violet Hative, Pitmaston Orange, New White.

GRAPES FOR OPEN AIR.—Black Frontignan, Royal Muscadine, and Sweetwater.

For Greenhouse.—Black Hamboro', Golden Hamborough, and Muscat Hamboro'.

For Stove.—Bowood Muscat, Grisley Frontignan, Cannon Hall Muscat.

BARBERRIES.—Stoneless. **CRANBERRIES.**—large-fruited.

CURRANTS.—Red Grape, White Grape, Monstreuse de berry, Black Grape, and Hogden's Black.

RASPBERRIES.—Carter's Prolific, Red and White Double-bearing, Red and White Antwerp.

STRAWBERRIES.—Kean's Seedling, British Queen, Black Prince, Myatt's Seedling alias Filbert, Elton, Eleanor, Carolina Superba, and Sir Harry.

GOOSEBERRIES.—Warrington, Champagne, for flavour, London, Leader, Thumper, and Freedom, for size and the different colours.

MELONS.—Beechwood, Lord Raglan's Favourite, Bromham Hall, Trentham.

CUCUMBERS.—Essex Rival, Symmetry, Ipswich Standard, Cuthill's Black Spine, Kenyon's favourite, Dancer's Long Green.

THE BEST VEGETABLES.

POTATOES.—Poole's early double-cropping Kidney, Regent, Forty-fold, Rilott's Flower Ball, Lapstone Kidney, Early Fulham Round.

BROCOLI.—Snow's Superb, Grange's Early White, Walcheren, Early-Sprouting, Purple and White Cape.

BRUSSELS SPROUTS.—Buy imported seed. None other can be depended on.

BETROOT.—Dancer's Red, Whyte's Isleworth, and New Black.

CAULIFLOWER.—Walcheren, Haage's Erfurt early forcing, Asiatic late.

CABBAGE.—Early Fulham, Imperial, East Neuk of Fife, Battersea.

COLEWORT.—Fulham Rosette, and the Old Hardy Green.

CARROT.—Early Horn, Altringham, and Long Orange.

CELERY.—Cole's Red, Cole's White, Silesian, and Lion's Paw.

LETTUCE.—Fulham Cos, Brown Dutch, and Silesian Cabbage.

ONION.—White Spanish, James's Long-keeping, Tripoli, and Silver Skin for pickling.

KAIL.—Hardy Green, Dwarf Curled, and New Variegated.

SAVOY.—Netted Green, Hardy Winter, and Drumhead.

VEGETABLE MARROW.—Boston, Dancer's Ribbed, and Long Green.

RADISH.—Wood's Early Frame, Red and White Turnip.

SPINACH.—Round leaf for Summer, and Prickly for Winter.

TURNIP.—Nonsuch, White Dutch, Stone, and Rendle's.

PEAS.—Groom's Dwarf, Berbidge's Eclipse, Milford Marrow, British Queen.

FRENCH BEANS.—Newington Wonder, Dwarf Dun, and Negro.

BROAD BEANS.—Wonderful Long Pod, and Marshall's Prolific.

PARSNIP.—Hollow Crown. **LEEK.**—London Flag.

RHUBARB.—Myatt's Victoria, Linnæus, and Prince Albert.

HERBS.—Parsley, Thyme, Sage, Winter Savory, Marjorum, Basil, Fennel, Tarrogon, Chives, Borage, Corn Salad. These are all useful ; many others may be grown for their medicinal qualities.

CULTURE OF VEGETABLES.

POTATOES.—This useful vegetable is grown upon a large scale on farms, and the time of planting depends a little upon the clearing of the preceding crop ; but in gardens they may be planted in autumn, and from that time until the end of spring, so that the weather be fine, and the ground in good working order. They are commonly dibbled in, that is, holes are made with a blunt dibble six inches deep, and the sets dropped in ; but it is far better to draw deep drills, and lay them in the bottom, and the earth drawn in upon them. One condition must be attended to : the sets must be planted before they have begun to shoot : for autumn planting use whole sets. Where potatoes are large, and require to be cut, let there be one strong eye to each set, dry them before planting, and never plant till March. Dwarf sorts should be nine inches apart in the row, and eighteen to twenty-four inches from row to row. Chapman's Kidney, which used to be planted in July, and taken up in November, has been superseded by Poole's KING OF THE KIDNEYS, which is one of the earliest, and which has been proved one of the best for early forcing, and the first crop planted again in the open ground in July, taken up in November, stored solid in sand or earth, and used like new Potatoes till May. All sorts of Potatoes, when three or four inches out of the ground, should have the earth drawn to their stems on a dry day. Large late sorts should be planted a foot apart in the rows, and two to three feet from row to row.

BROCCOLI.—For a private garden, the best way to keep up a succession is to sow in the middle of April

very thinly and evenly on beds four feet wide, that the middle may be reached for weeding or drawing them. If they happen to be too crowded in any part, thin them ; as soon as any are large enough, prick them out six inches apart in other four feet beds, and leave the rest to grow. You will find that you may draw every week, for they will, whilst undisturbed in their seed beds, be very unequal in their growth, and you will get half a dozen seasons of plants from the same bed. Whatever number of sorts you grow, treat them all alike. As those which are pricked out grow large enough, plant them out, not all at once, but only those which are sufficiently strong, and thus your broccoli will come in at different times, convenient for families, but not so for market gardeners. This one sowing will answer well for the whole year ; for the first planted out will be large, well grown, and established, while there are yet very small ones in the seed bed. This applies to all the sorts, but there may be a sowing of the sprouting Broccoli a month earlier. Many have a second sowing of all the sorts in May, but one is enough for us.

BRUSSELS SPROUTS.—Sow in April, and treat as you would Broccoli.

BEETROOT.—Trench and crumble the ground well, and sow very thinly in drills nine inches apart ; or you may, if you please, drop two or three seeds every nine inches in the drills. When these come up and begin to grow, draw out all but the strongest plant in each place. Your piece will be thus well regulated nine inches apart all over ; you have nothing more to do but hoe out weeds and keep them clean, they will soon cover the ground, and kill all the weeds that come up. April is the best month for sowing.

CAULIFLOWER.—The spring sowing in April must be treated very much like Broccoli ; but a sowing in the middle of August will be necessary to prick out in a garden frame, or be otherwise protected over the winter. The strongest of these may be put out in patches of

five, to be covered with hand glasses ; the bulk may be kept in the frame carefully weeded, not watered until they absolutely want it, picked over now and then to remove any that are unhealthy, and there kept until the weather breaks in the spring to plant them out.

CABBAGE.—One of the most useful of all vegetables. A pinch of seed may be sown every month from March till August, and planted out as fast as it gets large enough ; but the principal sowings must be April and August. The latter sowing may be planted out as vacant spaces occur, and we especially recommend planting these out, when large enough, six inches apart in rows a foot from each other. The intention, however, is to remove every other row as we require them for winter greens, and then take out two of every three from the rows left, which will ultimately leave the crop for cabbageing eighteen inches by two feet. The advantage of this August sowing is, that when put out in store beds four inches apart, they stand over winter, get stocky, and may be planted as vacancies occur ; and the spring sowing in April will do the same for all summer.

CARROT.—The ground must be well pulverised fifteen inches deep, and the seed may be sown broadcast or in drills eight inches apart ; whichever way it is done, the plants must be thinned out to six or eight inch distance to make them grow a good size. They must be kept free from weeds. For small families, when the horn Carrot is used, they may be sown broadcast in a warm border, and be only moderately thinned, because you draw them as they are wanted, beginning before they are half grown, and continuing till they have been finished.

CELERY.—We are not to suppose everybody has a hot-bed, therefore sow in the open ground in the early part of April. As soon as the plants are large enough prick them out in a bed of good rich soil, four inches apart ; see that they are well watered. When the

plants have grown into strength, dig a trench a foot wide and spade deep. Put three inches in thickness of rotten dung on the bottom, and fork it into the soil. Plant the Celery nine inches apart all along the centre, give it a copious watering to settle the earth about the roots, and it will soon grow tall enough to require earthing, by drawing down a little of the ground from both sides. As it grows up, continue drawing down the soil on fine days, and take care that the mould does not get into the heart of the plant. As it advances, you must pile the earth up against it, and repeat it as long as the plants continue to grow. If you have more than one row, have four feet of room between all the rows. When you take up the plants for trenching out, as it is called, trim off the side shoots if there be any, but do not follow the common practice of trimming off the leaves. For soups, plant out on the level ground, first forking in dung as you do at the bottom of a trench, and earth up as it grows ; you do not want it so long, and it is easier taken as you require it. If the plants are raised in heat, sow a month earlier.

CUCUMBERS.—These may be commenced at any period of the year, if you have a good supply of hot stable dung. The dung should be shook out several times, and watered when too dry—as often, in fact, as it heats—until it is pretty well all alike of a genial warmth ; for if used without this, the centre would pretty well burn, and the heat be violent, but of no duration. Build up your bed a foot wider all round than the frame, and five feet high, thrust a stake that will reach the centre in at one side of the bed, that by withdrawing it you may ascertain the temperature, and if you find the heat too violent after two or three days, it must be shook out again. In making up the bed, the dung must not be trodden nor much pressed,—merely pat it down with the fork, put on the frame, and cover up with the glass. When the heat is well up, put three inches of good loam all over the surface : this will

prevent any noxious vapour from rising within the frame. When the heat comes through, put a peck of earth, good rich loam and well rotted dung mixed, under the centre of each glass, turn out the plant with its ball of earth whole, and making the earth into a sort of basin, place the ball on the three inches of soil, and draw enough of the other to it to be even with the surface, leaving the remainder like a bank round it; water to settle the earth to the ball, and, as the roots appear through the side, continue to add soil until the whole is level. If any shoot takes the lead, nip off the end, and let all the branches be laid in directions to fill the frame; pick off all the male blooms and buds as fast as they come; shade in the heat of the day, and water freely as the soil dries.

CUCUMBERS FROM SEED.—Make a slight hot-bed a month before the main one, sow seeds in a pot, and as soon as they have begun to show the rough leaf, pot them singly in four-inch pots; when they have two pair of rough leaves, pinch out the heart, and lateral shoots will appear; and when they have grown strong, they are in a fit state to transfer to the fruiting bed.

• **MELONS.**—There is very little difference in the treatment of these two fruits. Generally the bed should be begun in April, for the sake of summer heat in ripening the fruit, but in all other respects the same; except that when fruit is ripening you must be sparing of water. The great object in both is to cover the surface with branches as soon as we can, and shorten any that get beyond bounds.

LETTUCE.—Although this universally favourite salad is succulent beyond most others, they grow best in light ground, sown in frames in autumn to plant out in the spring, and for succession from February through the whole summer. They are simply thinned in the seed-bed to give them room to grow into strength, and when large enough, planted out in open situations; they want only to be kept clear of weeds. For open air culture

without assistance sow from March to August, constantly sowing and planting out if the supply is wanted. When we approach November, some may be planted in frames, and kept for use in winter, by merely closing the frames in bad weather, and throwing them open when it is mild and fine.

ONION.—It is next to impossible to have the ground too rich for Onions. It should be liberally dunged and dressed, well forked and pulverised, the top laid level and raked. Mark out four-foot beds, with eighteen-inch alleys between them. Sow the seed in March and April very evenly and thinly all over the surface, then cover slightly with earth taken from the alleys, crumbling it well, and throwing it evenly all over the surface, then tread the bed all over, with the footmarks joining each other, so that no portion be left untrodden. This done, lay it smooth with a rake, without disturbing the surface much, and cut the sides square, rake the alleys smooth, and wait their coming up. When they have come up, and get strength, hoe them out, so that they be left from four to six inches apart. When the weeds grow again, give them a second hoeing to clean them, and remove any that have been left too close. Onions for pickling should be sown the end of May, and not be thinned.

SHALOTTS should be planted in November or February in drills drawn deep enough to allow of three inches of covering, in any common soil where a cabbage will grow, and be taken up when the leaves turn yellow.

SCOTCH KALE, or Brocoli.—This may be treated like Cabbage, except that the crop, when finally planted out, should be eighteen inches apart in the row, and two feet from row to row, and earthed up a little when first weeded after planting out.

VEGETABLE MARROW.—This has become a general favourite, and as two or three plants will give a large supply, it is better for a small establishment to get plants, as they get fruit earlier than if it be sown in the

open ground ; but if a barrow full of hot stable dung can be got, dig a hole eighteen inches across and as deep, tread the hot dung into the bottom, and return enough earth to fill up a little above the level ; on this sow three or four seeds in March, and cover with a common hand-glass ; when they come up, the glass may be tilted to give air every mild day. As they can get no rain, they will require water now and then. They will not bear the open air till May, but there will be many fine days when the glass may be removed long before that. In May, you may remove all the plants but two, and plant them elsewhere ; but these two that remain will yield more than most families will require. When they have four rough leaves, the point may be pinched out ; as the lateral branches grow they must be laid out regularly out of each other's way, for they will cover a great space ; but they may be checked by taking off the ends. Those on the dung will grow immensely strong. Where there are hot-beds, the seed is sown in pots, and bedded out without disturbing the ball.

GOURDS OF ALL KINDS may be grown in the same way. The ground can hardly be too rich for any of them.

PARSLEY, and all sorts of herbs may be sown in drills, and, when large enough, be planted out. Parsley, however, is a favourite edging, and is then sown where it is to grow.

CORN SALAD is sown where it is to grow, in any of the spring months, and thinned out to nine inches apart. The leaves are picked for salads all the winter months.

RADISHES.—These are sown in autumn, to be covered all the winter with straw or litter at night, and during frosts ; but for families they are not worth the trouble, and therefore are sown in March, April, and May, broadcast, and drawn as soon as they are large enough.

SPINACH.—The round leaf is sown early in spring, generally broadcast, and thinned out to six inches apart ;

but for amateurs it is better sown in drills, six inches apart, rather thinly, and then it only has to be hoed one way, the distance of the drills does for the other. At the end of the summer, a crop of winter or prickly spinach may be sown in a similar way, and this stands all ordinary winters well.

TURNIPS.—These may be sown like Onions, but do not require treading. There is hardly any rule for sowing; advantage is generally taken of the weather, for after heavy rains they are almost sure to do well at any season. The first sowing may be in April, and the last in September. They must be hoed out to six inches apart, and kept clear of weeds.

PEAS.—Some people sow every three weeks from November to July; others begin in November, and the succeeding crops are put in when the last sown is up until July; however, successive crops must depend entirely upon the supply required. Peas like fresh ground, and should never be sowed on ground recently dunged. The distance depends on the sorts: dwarfs may be two to three feet apart, tall ones six feet; drills should be drawn three inches deep, the peas sown thinly, covered up and trodden in, there is the less chance of birds, mice, or other marauders disturbing them, and it holds the moisture on the ground; when up, well earth them, and put sticks.

BEANS, Broad.—Sow in drills two to three feet apart from November to May; earth them up as soon as they are three inches high; top them as soon as they begin to bloom.

BEANS, Kidney.—Sow in drills eighteen inches to two feet apart, and only leave them a foot apart in the row, by pulling up any that are closer than this. They must not be sown till the end of April.

BEANS, Scarlet.—These may be put six inches apart in rows six feet apart, and they may be grown with or without sticks. They will grow six or eight feet high. To grow them without sticks, you must pinch off the

tops a foot from the ground, and continue to top every side shoot. With attention they crop sooner and as well.

PARSNIPS.—Whether sown in autumn or spring, they are best sown in drills nine inches apart, and hoed out to the same distances in the row, or if broadcast, they must be left the same distance. They only require to be kept clear of weeds until they are large enough to store.

LEEKs.—May be sown in a small bed, and, when large enough, planted out six by eighteen inches apart, to be earthed up when they have grown into strength, for the purpose of bleaching them higher up than they would bleach naturally.

MUSHROOM BEDs.—These favourite fungi are grown so many different ways that we need only mention the conditions required to produce them :—a heap of horse droppings laid against a wall or piled up in a shed, or even laid in a sloping bank on a wide shelf in a dark cellar or cupboard, until it heats to the temperature of warm milk from the cow, will only require to be planted all over with lumps of spawn the size of an egg and covered with an inch of loam patted gently down, and the produce becomes a certainty ; take care, however, that there is no decaying wood, such as old sawdust or rotten twigs among the dung or loam used, for it destroys the mushroom and engenders a noxious fungus. The mushroom spawn is sold by every nurseryman, and at all seed shops, and costs but little.

PARTICULAR FLOWERS.

TWELVE OLD FAVOURITE SHOW GERANIUMs.—A rethusa (Beck's), salmon ; Carlos (Hoyle's), mottled rose ; Governor-General (Hoyle's), bright rose ; Leah (Beck's), pinkish salmon ; Lucy (Foster's), lilac ; Magnet (Hoyle's), crimson ; Magnificent (Foquett), crimson scarlet ; Pur-

purea (Beck's), purple ; Purple Perfection (Foster's), bright purple ; Rosamond (Beck's), rosy purple ; Rowena (Turner's), pink ; Rosa (Foster's), Rose.

A FEW FUCHSIAS.—King Charming ; Sedonia ; Duchess Lancaster ; England's Glory ; Omega ; Venus de Medici ; Napoleon and Princess of Prussia (white corolla).

TWELVE GOOD CHRYSANTHEMUMS. (Large varieties).—Dupont de l'Eure ; Pio Nono ; Queen of England ; Two-coloured Incurved ; Plutus ; Phidias ; Madame Audry ; Rolla ; Trilby ; Strafford ; Anaxo ; Cassy ; Albinn.

TWELVE POMPON CHRYSANTHEMUMS.—Le Nain bebe ; Cedo Nulli ; Requiui ; Bob ; Brilliant ; Creole ; Aurora Borealis ; Compte Achilli Vigier ; Buckingham ; Nemesis ; Saint Thais ; Argentine ; President Decainse.

TWELVE CARNATIONS. *Scarlet Bizarres*. — Martin's Splendid ; Calcot's Brutus ; Omer Pacha. *Crimson, Pink, and Purple Bizarres*.—Black Diamond ; Falconbridge ; Morgan May. *Purple flakes*. — Beauty of Woodhouse ; Prince Arthur ; Ulysses. *Rose flakes*.—Brook's Flora's Garland ; Magnificent ; Lorenzo. *Scarlet flakes*.—Justice Shallow ; Troubadour ; Queen Victoria.

TWELVE PICOTEEES.—Mrs. Norman ; Mrs. Turner ; Mrs. Drake ; Mrs. Kalke ; Alice Hoyle ; Mary ; Lady Macbeth ; Mrs. Barnard ; Duke of Devonshire ; Lavinia ; Countess of Waldegrave ; Thaliah.

EIGHTEEN PINKS.—Adonis ; Sarah ; Great Criterion ; Beauty of Salthill ; James Hogg ; Jupiter ; Fanny ; Theresa ; Mrs. Lewis ; Glory ; Mrs. Herbert ; Read's Jenny Lind ; Colchester Cardinal ; Mrs. Norman ; Kate ; Koh-i-noor ; John Stevens.

EIGHTEEN HOLLYHOCKS.—Pourpre de Tyre ; Comet ; Lilac Model ; Souvenir ; Sulphur Queen ; Meteor ; Hon. Mrs. Ashley ; Orestes ; Eva ; General Bem ; Royal White ; Purpura ; Elegans ; Fireball Superb ; Mrs. Oaks ; Lemonade ; Defiance ; Joseph Clark ; Sir D. Wedderbourn ; Sir R. Peel.

TWENTY-FOUR PANSIES.—Mrs. Hamilton : Lori Palmerston : Sampson : Sir J. Paxton : Sir R. Peel : Royal Albert : Farher Gavazzi : Great Western : Earl of Mansfield : Miss Tailbot : Monarch : Mrs. Beecher Stowe : Fearless : Sir Walter Scott : Flower of the Day : Duchess of Rutland : National : Lady Montague : Azeeon : Crimson Perfection : Duchess of Sutherland : Duke of Newcastle : Royal Visit : Hero : Aurora : Supreme.

TWELVE EARLY TULIPS.—Belle Alliance : Bizard Pronket : Dorothea Blanche : Eendracht : Yellow Standard : White Potterbakker : Superintendent : Vermilion Brilliant : Parisina : Reine de Ceres : Grand Master : Duc d'Orange.

BEST SCILLAS.—Bifolia, blue ; Bifolia, white ; Sibirica ; Amcena.

BEST HYACINTHS. *Double Dark Blue.*—Blocksberg ; Laurens Koster ; *Light Blue* : Garrick ; Comte St. Priest. *Double White* : Bride of Abydos ; Grandeur Royale ; *Double White, with coloured centres* : Anna Maria ; Gloriaflorum suprema. *Double Yellow.*—Duc de Berri ; Lady Sale. *Double Rose.*—Bouquet Royale ; Groot Vorst. *Double Crimson.*—Cochineal ; Flos Sanguineus. *Single Crimson.*—Amphion ; Satella. *Single Rose.*—Appelius ; La Dame du Lac ; *Single Black-blue.*—Baron de Tuyll ; Gladiator. *Light Blue.*—Grand Lilac ; Orondates. *Single pure White.*—Grand Vainqueur ; La Grande Vedette. *French White.*—Rousseau ; Voltaire. *Yellow.*—King of Holland ; Prince d'Orange.

EIGHTEEN CINERARIAS.—Catherine Seaton ; Exquisite ; Flora McIvor ; Kate Kearney ; Lablache ; Lady Camoys ; Lady Paxton ; Optima ; Picturata ; Prince of Blues ; Rosalind ; Queen of Beauties ; Admiral Lyons ; Attraction ; Compactum ; Magnum Bonum ; Rose of England ; Brilliant.

FIVE VERBENAS.—Brilliant de Valse ; Defiance ; Lord Raglan ; Madame Frileuse ; Mrs. Haley ; Mrs. Hulford ; Mrs. G. Leigh ; Mrs.

Tysson; Madame Lamoricière; Purple King; St. Margaret; Wonderful.

BEST AURICULAS.—*Green-edged*: Champion; Colonel Taylor; Freedom. *Grey-edged*: Ne Plus Ultra; Conqueror of Europe; Cheetham's Lancashire Hero. *White edged*; Taylor's Glory.

EIGHTEEN GOOD ROSES.

The following signs will indicate, * constant bloomers, † show flowers, as single blooms, ‡ roses of peculiar character. When more than one of these marks are placed, the variety has the two qualities combined: those marked also c are climbers. The whole are very distinct.

*† *Baronne Prevost*.—Bright rose colour, large.

* *Cymedor*.—Crimson, tinged with purple.

*† *Celemene*.—Pink rose, fine form.

*† *Géant des Batailles*.—Most vivid scarlet crimson.

c†* *Prudence Ræser*.—Pink, with fawn centre.

* *Comice de Seine et Marne*.—Cherry red, shaded.

c* *Le Grénadier*.—Vivid scarlet crimson.

* *Leveson Gower*.—Rose colour, large.

c* *Pierre de St. Cyr*.—Pale, glossy rose colour.

* *Queen of Bourbons*.—Most beautiful fawn.

*† *Souvenir de Malmaison*.—Creamy flesh blush.

* *Fellenberg*.—Bright crimson, small flower.

c†* *La Bieche*.—White, centre flesh.

* *Miss Glegg*.—Pure white, centre tinged.

‡* *Cramoisie Supérieure*.—Brilliant velvety scarlet.

*† *Comte de Paris*.—Deep flesh-coloured blush.

*† *Devoniensis*.—Creamy white and straw.

c *Cloth of Gold*.—Splendid yellow.

BEST HARDY DECIDUOUS SHRUBS.

American Azalias, *Althæa flutex*. Thorns, Dwarf. *Dutzia scabra*. Lilacs, Persian, Siberian, common.

Almonds, Dwarf. Mazerion, red and white. *Magnolia purpurea*. *Pyrus Japonica*, red, white. *Ribes sanguinea*, single and double. *Spiraea prunefolia*, double. *Wiegelia Rosea*. *Syringa*.

BEST EVERGREEN SHRUBS.

Berberis aquifolia. *Rhododendrons*. *Andromeda floribunda*. *Araucaria imbricata*. *Garraya eliptica*. *Arbutus Andrachne*, *Procera*, and *Unedo*. *Euonemus*, gold stripe and silver stripe. Box, green and variegated. *Acuba Japonica*. Yews, green and silver. Laurel. Portugal Laurel. *Laurustinus*. Hollies, silver-edged, gold-edge, and green. *Kalmia latifolia*. *Magnolia grandiflora*. Heaths. *Daphne Cneorum*, *Collina*, *Laureola*.

A FEW DECIDUOUS FLOWERING TREES.

Laburnum. Acacias. Cherry, double, flowing. Almond. Peach, double, flowing. Mountain Ash. Thorne's red, white, single and double. Horse-Chesnut, white, scarlet. *Salisburea*.

CLIMBING PLANTS.

Virginian Creeper. *Clematis Sibboldii*, *Azurea grandiflora*, and scented. Honeysuckle. Ivy, English, Irish, and variegated. Jasmine, white, and nudiflora, yellow. *Forsythia*. *Wisteria sinensis*, lilac, white. Roses. Everlasting Pea. Passion Flower. ANNUAL DITTO.—*Tropeolum Canariensis*, Major, *Atrosanguinea*. *Convolvulus major*. Sweet Pea. *Thunbergia*.

CREEPING PLANTS.

Ivy. St. John's Wort. *Vinca*, major and minor. *Saxifraga*. ANNUAL DITTO.—*Abronia umbellata*. *Nolana prostrata*.

HARDY ANNUALS TO BE SOWN AND THINNED OUT
WHERE THEY ARE TO BLOOM.

Convolvulus major, and *minor*. *Nemophila insignis*, and *maculata*. Larkspur. *Coreopsis tinctoria*. Sweet Pea. Candy Tuft. *Collinsia Bicolor*. Mignonette. *Erysimum Peroffskianum*. *Lupinus nanus*, *menziesii*. and *hybridus insignis*. *Campanula Loyrii*.

TENDER AND OTHER ANNUALS THAT REQUIRE TO BE
SOWN AND PLANTED OUT OR POTTED.

Linum grandiflorum rubrum. *Zinnia*. Ten-Week Stock. China Aster. New Everlasting Flower. Imperial India Pink. *Clarkia Elegans Marginata*. *Schysopetalum Walkerii*. *Acroclinium Roseum*. *Rhodanthe Manglesii*. *Phlox Drummondii*. GLENNY'S Improved Balsam. Cockscomb. *Thunbergia*. French Marigold. *Clintonia pulchella*. *Salpiglossis*.

BIENNIALS AND PERENNIALS,
TO BE POTTED OR PLANTED OUT.

Delphinium. *Catananche Cœrulea*. *Phlox*. Pansy. *Cineraria*. *Calceolaria*. *Verbena*. *Petunia*. *Holly-heck*. *Antirrhinum*. *Polyanthus*. *Primula sinensis*. Pink. *Auricula*. *Picotee*. *Digitalis*. *Columbine*. Canterbury Bells. *Lupinus Polyphyllus*. *Geranium*. *Fuchsia*. *Dahlia*. Wallflower. Sweet William. Daisy. Double *Chrysanthemum*. *Heliotrope*. *Mimulus*. *Gloxinea*. *Veronica*. *Ageratum Mexicanum*.

FAVOURITE BULBOUS-ROOTED PLANTS.

Tulips ; Hyacinths ; Scillas ; Crocuses ; Snowdrops ; Narcissuses ; *Cypripediums* ; Irises ; *Gladioluses*.
SCALY-ROOTED PLANTS.—Lilies ; *Frittelarias*, and Crown Imperials.

EDGING PLANTS.

Box ; Thrift ; Daisies ; *Saxifraga* ; *Gentiana* ; *Alysum* ; *Arabis*.

BEST PLANTS TO GROW UNDER TREES.

Berberis aquifolia ; Ivy trailing ; St. John's Wort ;
Vinea major and *minor* ; *Acuba Japonica*.

AQUATIC PLANTS.

Caltha palustris. *Cerastium aquaticum*. *Iris pseudacorus*. *Nymphaea alba*, *odorata*. *Polygonum amphibium*. *Ranunculus aquatilis*. *Nasturtium aquaticum*.

A FEW PLANTS FOR SWAMPY PLACES.

Hypericum elodes and *pulchrum* ; *Aster trifolium* ;
Anthericum ossifraga ; *Senecio paludosus* ; *Alnus glutinosus* and *pumila* ; *Betula nana*, *pumila*, and *Siberica* ; *Myrica Gale* ; *Salix reticulata* ; *Pinus palustris* ;
Ledum palustre ; *Arbutus Unedo* ; *Myosotis palustris*,
Aster trifolium.

A FEW ALPINES AND ROCK PLANTS.

Bellis perennis ; *Lobelia minuta* ; *Saxifraga sarmen-
 tosa* and *aizoides* ; *Veronica prostrata* ; Violets ; *Aly-
 sum calycinum* and *deltoides* ; *Campanula per-
 foliata*, *Cervicaria*, *thyrsoides*, and *pumila* ; *Digitalis* ;
Anemone alpina and *hortensis* ; *Aquilegia alpinum* ;
Arabis alpina ; *Aster alpinus* ; *Dianthus colinus* ;
Erinus alpinus ; *Gentiana acaulis* ; *Iberis saxatilis* ;
Lobelia minutum ; *Linum flavum* ; *Primula viscosa*
 and *dentifolia* ; *Polyanthus* ; *Antirrhinum*.

BEDDING-OUT PLANTS.

SCARLET.—*Geraniums*. Tom Thumb ; Little David.
Verbenas. Defiance ; Lord Raglan. *Sweet William*.
Scarlet Lychnis ; *Geum coccineum*.

YELLOW.—*Calceolarias*, *Aurea floribunda* and *rugosa*.
Linum Flavum. *Alyssum*. *Cheiranthus*. *Marshallii*.
Golden Double Wallflower.

PURPLE.—*Verbena*. Purple King ; *Lobelia* ; *ramosa* ;
speciosa. *Penstemon*. *Veronica*. *Anagalis*. *Delphi-
 nium* Barlowii.

PINK.—*Geranium*. Tom Thumb's Bride ; Kingsbury Pet. *Verbena*. Several. *Antirrhinum*. *Bellis Perennis* ; Several. *Daphne Cneorum*.

LIGHT BLUE.—*Ageratum Mexicanum* ; *Delphinium formosum*.

WHITE.—Perennial *Candy Tuft*. *Arabis Alpina*. *Verbena* ; Mrs. Halford. White *Daisy*. *Phlox Omne-flora Alba*.

CRIMSON.—Intermediate *Stock*. *Verbena* ; Crimson King.

FLOWERS GOOD FOR PERFUME.

Mignonette ; Stock ; Pink ; Sweet Pea ; Carnation ; Picotee ; Rose ; Wallflower ; Heliotrope ; Lemon-scented *Verbena*.

FAVOURITE GREENHOUSE PLANTS.

Camellias ; Geraniums ; Calceolarias ; Cinerarias ; *Styphelia tubiflora* ; *Chorezema varium* ; *Ereostemon buxifolium* and *cuspidatum* ; *Boronia serrulata* ; *Acacias* ; *Azalea indica* ; *Correas* ; *Cosmelia rubra* ; *Eparis* ; *Erica* ; *Helichrysum* ; *Hovea celsii* and *ilicifolia* ; *Leschenaultia formosa* and *biloba* ; *Pimelia Hendersonii* ; *Cestrum amantiacum*.

FAVOURITE STOVE PLANTS.

Achimenes ; *Gloxinas* ; *Gesneras* ; *Echites* ; *Alamanda* ; *Hoya carnosa* ; *Passiflora alata* and *Bonapartia* ; *Æschynanthus grandiflora* ; *Amaryllis* ; *Abutilon venosum* and *Pictum grandiflorum* ; *Gardenia radicans* and *florida* ; *Froncisia hopenna* and *latifolia* ; *Ixora coccinea* ; *Euphorbia splendens* and *Jaquiniflora* ; *Rondeletia speciosa major*.

A FEW HARDY ANNUALS, PERHAPS THE BEST.

As Annuals are sown, grown, and perfected in a season, the term hardy is applied to all for which our seasons are long enough without the assistance of glass.

CONVOLVULUS MAJOR is a climbing plant, and will

run ten or a dozen feet high upon tall sticks. The colours are various—red, blue, white, and striped in various ways; the form, that of a funnel; sow them in April where they are to bloom.

CONVOLVULUS MINOR is a dwarf, and, if it has room, rather a straggling plant; the prevailing colour intense dark, but striking blue. Not more than three ought to be in a patch, in a triangular form, six inches from each other; there is a white variety comes among them, but most growers pull them out, they are not pretty. Flowers formed like *C. major*, but less.

NEMOPHILA INSIGNIS.—This is still more dwarf, not reaching more than six inches if it have room, and be not drawn up; the flower bright blue, with white centre, and about the size of a shilling. This is inclined to ramble on the ground if crowded. Three are enough in a patch, and they will bear sowing in a patch and planting out; and if done without disturbing too much, the check is good for them. There are several very distinct varieties of *Nemophila*, but the only one worth adding is *N. maculata*, which is distinctly blotched. *N. insignis major* is said to be larger than the first-mentioned; but as the colour is the same, we cannot want both. Sow in April.

LARKSPUR.—The Dwarf Rocket Larkspur is one of the most striking, and is now got up so double, that they are only inferior to Hyacinths in their fainter colours, which, however, are numerous. The growers send out a dozen distinct varieties; and although we prefer a bed or even patches of mixed colours, we have them all saved separately, and mix an equal quantity of each colour. Sow them in March or April, where they are to bloom; they may be left tolerably close, say three or four inches apart, in patches on the border, or in beds; they are not more than eight or nine inches when well grown.

COREOPSIS TINCTORIA.—A very gay and elegant plant, bearing for a long time flowers of golden yellow

and brown eye, very graceful in its form, and the flowers on tall wiry stems ; one of the very best of annuals. This flower has sported a good deal ; some have come all brown, and seeds saved from them have, in a great measure, been true ; others have come dwarf, and been preserved ; but nothing actually beats tinctoria, in a batch of which you may have some of all the others. Sow in April, where it is to grow, and then thin to the proper distances ; six inches is quite near enough, whether in a single patch or in masses. The height of *C. tinctoria* is eighteen inches to two feet ; but there is a dwarf variety half the height, not so handsome.

SWEET PEA.—This is a climbing plant, growing on good sticks about three feet high, and blooming various shades of colour, from light blue and pink to deep purple and red, having a very sweet perfume. These should always be sown in March or April, where they are to bloom, and have light pea-sticks placed to them as soon as they are well up ; eight or ten may be put to each patch, as less will hardly make a show.

CANDYTUFT.—This is a dwarf annual, purple, dingy red and white, very hardy, bearing abundance of bloom in umbels or flat bunches at the tops of all the shoots, which are about eight inches high. It may be sown where it is to bloom, and left about three inches apart, by pulling up some where they are closer : the colours may be kept distinct ; at all events, the white is useful for effect, for white are scarce.

COLLINSIA BICOLOR.—This is a plant with spikes of flowers something like Larkspurs, but more of the Lupin form, about nine inches high ; the prevailing colour of the spike is purple. This should be sown in April, and left about three inches apart ; whether three in a patch or thirty in a mass, these distances ought to be preserved. Like all other subjects, these are sports which are called under different names ; but bi-colour is just as good as others. There is, however, a white one, which is distinct, and much smaller.

MIGNONETTE, grown for its admirable fragrance, should be sown in all spare places, without regard to effect, for the flower is so inconspicuous that it cannot be seen at any distance ; therefore, every space not necessary to be occupied by gay colours for appearance, may be sown with Mignonette. It will transplant like many other things, but the seed sown where it is to grow will give stronger plants. This is so hardy, that seed dropped in the autumn will come up early in the spring, and often grow stronger than spring sown.

ERYSIMUM PEROFFSKIANUM grows about nine inches to a foot ; bears a great abundance of flowers ; colour, a golden orange. This, while it lasts in bloom, is a very beautiful ornament to the borders ; it may be sown, in March or April, where it is to flower, and be thinned out to three inches apart.

LUPINS.—Of these, there are several very distinct. *L. nanus* is very dwarf, dark blue, not more than eight or ten inches at the most ; useful for its dwarfness. *L. Hartwegii* is tall, blooms blue and whitish yellow ; branches a good deal, and if the seed-pods be prevented from ripening, will continue growing and blooming till cut off with the weather. This runs to two feet. *L. Hybridus insignis* is one of the taller kinds ; a struggle in colour between crimson and purple, but very gay ; and *L. Menziesii* is a golden yellow, said to be a great improvement on the yellow of olden days, which perfected its seeds so fast that it was in bloom and out almost within a week. There are many others, but these are all that can be courted.

ANNUALS THAT ARE BETTER FOR RAISING IN HEAT.

ZINNIA.—An annual of many colours, everything but blue ; a star flower, which, like the *Cinreraria*, the better when so close as to form a circle. This is better for sowing under glass in March, and plant-

ing out in May, or early in June ; but it will bear sowing in the open air. Height about two feet when well grown ; flowers as large as a crown-piece, at the ends of all the shoots.

TEN-WEEK STOCK.—This popular subject has been so improved of late years, that the growers advertise fifty or sixty varieties : we have adopted about ten or twelve, all large, flowering, and double. Sow this in pans as soon after February as you like, and they will be large enough to prick out in April, and plant out in May. We prefer mixed colours ; but there must be an equal number of each of the ten or twelve colours. If one predominates, which is always the case if mixtures are bought of the raisers, the effect is spoiled. It may also be sown in the open air in April, and come in bloom later.

ASTERS.—There are many nominal distinctions among these. The only ones we value are the quilled, which are very beautiful, and are called by the growers Globe Asters ; another sort is called Pyramidal, and they deserve the name, for they are tall, narrow, and bloom from top to bottom. The third is called Truffant's Peone Flora Aster, which is the true double China Aster, improved, or, we might say, perfected, for we hardly know what could make them better. They are large, full, double, and symmetrical ; they might come with firmer petals, and keep better in their position ; but they are, unquestionably, the best : all the others, and there are many, may be sent to the winds by people who have small gardens. Sown in heat in March, or in the open air in April ; they are of all colours but yellow, and want a good foot of room for each plant.

NEW EVERLASTING FLOWER.—Such is the name given to a very fine variety of *Xeranthemum*, large, double, and of various colours—white, straw, orange, yellow, brown, and blush. These flowers, if gathered in their prime, will keep perfect all through the winter, and indeed for years if kept from the air and from dust and

dirt. We can see nothing in the plant or flower but a very highly improved *Xeranthemum*. Sow under glass in March, or out of doors in April, because they bloom till the frost cuts them off; the earlier they are in flower the better.

IMPERIAL INDIA PINK.—The India Pink was always a favourite annual; but it has been so improved that we have them double, and in such great variety, that there would be no difficulty in selecting a dozen or two distinct from a very few. It is an elegant pot plant, may be sown in March under glass, and in patches when they are to bloom in April; but when they are large enough to remove, it is too late to remove them; raised in heat, and planted in the borders three or four in a patch, they are beautiful.

ACROCLINUM ROSEUM.—A very graceful plant, with a star-like horny flower of rosy colour sitting horizontally on the top of every shoot, and the size of a two-shilling piece; on the ground, therefore, it shows to the greatest advantage, as we look down on a mass of bloom. This plant requires the same treatment as *Rodanthe Manglesii*. Sow in heat in March; prick out three in a three-inch pot, close to the edge, as soon as they are large enough; and when the roots have grown well down, shift to four-inch pots; you may then plant them out of doors, or continue to shift as they fill their pots with roots, until you may get them into ten-inch pots; but you may stop at any sized pot you please, and start them into bloom; they run about a foot high.

RHODANTHE MANGLESII is a much smaller and weaker plant; but the flowers are of similar character, and the foot-stalks of the flowers are so weak that the backs only are shown, unless they are placed above the eye, and these backs are of a silvery grey. They are perfectly useless as ornaments out of doors. The only colour is pale rose, and the flower is horny, and about the size of a shilling—a trifle larger, perhaps, if well grown; as a pot-plant on a shelf above the eye, it is an elegant subject.

PHLOX DRUMMONDII.—This is a favourite subject, and from its diversity of colours, the elegance of its growth, and, where pains have been taken in sowing of the seed, the form of its flowers, it has become popular among the tender annuals. Sow in heat in March, prick out in April; pot singly in May; and when intended for out-of-doors, turn the balls out whole, without disturbing the roots. It grows about nine inches high, if not drawn up by bad management; and out-of-doors, continues to bloom till cut off by frost; all shades of red and purple, white, and even scarlet, may be seen sometimes in a few seedlings.

COCKSCOMBS.—This is familiar enough to all classes: the flower is of various colours, but the crimson and scarlet are the favourites; and the great merit of growing them is to have them very dwarf, and a very large flower. We sow in heat in March, prick out four or five round the edge of a four-inch pot, and let them grow with plenty of heat, light, and air, until they show their incipient blooms; select those which promise best; cut off their heads with four pair of leaves; cut up the stem close to the base of the lower pair, which must be removed; these will strike readily under a bell-glass, when they must be potted singly, kept close to the light (in a common hot-bed is best), and shift them from one size to another, and give plenty of moisture; the temperature of the bed must be kept up; the six leaves will get very large, and the flower continue to increase as long as you keep up the heat, light, air, and sufficient water. They will not do out of doors.

THUNBERGIA.—One of the prettiest of pot climbers, and with singular flower—white, straw, buff, yellow, and orange, with and without a black centre; the flower as large as a two-shilling piece. Sow in March, and when large enough, pot off singly in a three-inch pot, to be shifted and bloomed in a four, or three round the edge of a three-inch pot to be shifted and bloomed in a

six. They will climb up a trellis or branch of a tree two feet, or three feet when they have plenty of room and the first flower buds are picked off; but if let alone in a four-inch pot will flower before they are eighteen inches. They are a beautiful pot plant. If those three in a pot are turned into the ground in May, they will form a pretty object in contrast with Sweet Peas.

FRENCH MARIGOLD.—This, although anything but pleasant to the nose, is a gaudy autumn flower, the very last of the annuals to give up, and generally covered with bloom when cut off. It is a golden yellow, variously marked with rich brown or red, about eighteen inches high if not drawn up. Sow in March under glass, and April in the open air—the only difference is, that the one is in bloom long before the other. Plant these out three in a patch, six inches apart.

CLARKIA PULCHELLA.—This is no favourite of ours; there is too little flower for the quantity of plant, and it is not striking enough to make up for it; but *Clarkia Pulchella Marginata* is a sport. The tips of the flowers are white, and this renders it very conspicuous. Much depends on whether this sport will be constant; if it be, it adds one to our list of favourites. We strongly recommend whoever tries this to banish the other *Clarkias* from the garden, and if among the new ones any run back to a self colour, root it up instantly. Sow in doors in March, out doors in April, and plant out three in a patch when large enough.

SCHIZOPETALON WALKERII is pure white, with a flower like flagee work, very curious and beautiful; but it is a subject for a pot, and not the open ground, where its extreme beauty is lost. Treat it like any tender thing, but sowing very few seeds in pots, and thinning them after they are up is, perhaps, the best mode, so that the delicate little plants are not disturbed. It would be difficult to describe the flower.

These are all the annuals we care for in the largest gardens, unless we could find one as full of flower and as

bright as a scarlet *Verbena*, for that would be an acquisition. Scarlets that are good for anything are scarce among annuals. *Cacalia Coccinea* is but middling; it makes no show in a border. The scarlet ten-week Stock is the best we can find among the dwarfs.

BIENNIALS AND PERENNIALS,

TO BE POTTED OR PLANTED OUT ACCORDING TO THEIR HABIT.

DELPHINIUM.—This is the perennial Larkspur, of which there are now many very beautiful varieties, obtained from a single packet of seed, and when they flower, we have nothing to do but reject all that are inferior. They should have broad petals to make the flower circular, and until we get them so, the broader the petal the better. These are propagated by parting the roots in the autumn. The double varieties, such as *Barlowii*, *Grandiflora*, &c. are much esteemed, but the single ones from seed come in such a diversity of colours that everybody who likes the flower can raise a collection of his own. Choice seed is sown in pans in March or April, pricked out in small pots, and when large enough may be planted out of doors. They are hardy, and vary from eighteen inches to three feet. Colours—white, all shades of blue, and all shades of red; and, if sown early, bloom the first year.

CATANANCHE CERULEA is a short grassy plant, which sends up flower stems a foot long, with a single flower on each, a sort of star with square-ended petals, rather notchy. There are varieties of blue, white, and white with blue centre. Sow the seed in the open air in April, and when large enough, plant it out where it is to bloom. These are propagated by parting the roots in autumn, but there seems very little inclination to sport.

PHLOX.—These are of the most important and extensive families in the garden, varying in height from six

inches such as *Omniflora Alba*, to four feet such as *Grandiflora*. They also vary in colour, for they comprise all shades of red and purple. There are collections of more than a hundred varieties, but there is nothing striking among them. They are mostly selfs, and in selecting for borders we should prefer for white or pink or purple to have all of one kind in each patch. The seed may be sown in the open air, and planted out, when large enough, where they may bloom. Of course there will be many different heights and colours, from which the most novel might be selected. This plant is highly ornamental in borders; it is parted in the autumn for propagation, so that if we raise one with any novelty or excellence about it, we can soon get a stock of it, and give it a name. Like most other families, many with different names are too much alike.

HOLLYHOCK.—This is another extensive family, and the best seed yields flowers of which the majority is like the parent; so that although, if we can depend on the seed, we obtain double and good flowers, we may grow a good many without getting any striking novelty, yet there will be a great portion of the flowers fine enough to ornament the borders, and quite as good as the parents.

The seed may be sown in April, and may be planted out in July, or early in August, either in rows, to see how they turn out, or in the borders, if required; for single ones will be very rare among them if they have been saved from double. They comprise all colours but blue, and form an elegant spike from six to eight feet high. It is usual to cut off the tops, and keep all to one height, five to six feet. These are parted for propagation, one heart or shoot making a plant; and if it comes off without a root, let it be struck under a hand-glass.

ANTIRRHINUM, OR SNAP-DRAGON.—A great diversity of this plant is now cultivated, but we look upon many of the named varieties as little better than weeds. We

must have contrast and striking colour in all bedding plants, but among the named sorts there are many so lightly spotted, or speckled, or striped, that all marking is lost a yard off, and we almost need a glass to see the beauties described in the catalogues. A pinch of seed will yield a good collection, if it has been saved from striking colours. Sow in April, plant out the end of May, and they will bloom the first year. They propagate freely by cuttings, or parted portions of the root. They will grow in any soil, or no soil, for they will flourish on the side of a brick wall, growing freely out of the cracks.

DIGITALIS, OR FOXGLOVE.—This is a showy and hardy plant, which will grow in any soil, but does not vary much in colour. Strictly speaking, it is a biennial, for it rarely lives after blooming. The seed may be sown in March or April in the open ground, and be planted out when large enough. It is useful, because it will grow in poor soil in isolated corners, on rock-work, or even on an old wall.

COLUMBINE.—If these are carefully selected, a collection of the best is very beautiful. Some are as dwarf as six to nine inches, but the general run is one to two feet. The single ones are very poor, and not worth garden room, and therefore should be thrown away at once; the double and very double are really beautiful. Blue seems the natural colour, but there are various shades of red, and some of both the red and blue are mottled with white. As the flowers are on long graceful stems, and form a tree of blooms, they are favourites in even choice gardens. The seed may be sown in the open air in April, and be planted out as soon as they are large enough to handle, nine inches apart, where they may be allowed to bloom, and the single ones may be thrown away as soon as they show themselves.

CANTERBURY BELLS.—A biennial, which is gay enough when single, but very rich and beautiful when double, and well worth a place in any border. The doubleness

is formed with one bell inside another, and it adds greatly to the richness of the plant. The colours vary from white through all the shades of blue. These should be sown in April, and be planted out in June or July, in store beds nine inches apart, or where they are to bloom.

LUPINUS POLYPHYLLUS.—The best of the perennial Lupins will bloom the first year, if sown in March and planted out as soon as they can be handled ; but they can be made to flower earlier, if raised in heat, and potted to grow till the weather is mild enough to turn them out. They vary in colour very much, through all the shades of blue, and some are white. They have the most handsome spikes of all the Lupin tribe, and may be propagated by parting the roots. They are thoroughly hardy, and may be left in the ground.

SWEET WILLIAM.—This flower was brought nearly to perfection by a gentleman of Wycombe, Mr. Hunt, and the privilege of sending it out to the public was given to a nurseryman. All he had to do was to select the best, and propagate them ; but he unfortunately raised the seedlings, and let all out, good and bad, before they bloomed, so that the selection, or rather the appreciation, was left to people who expected that all would be fine alike. Now this was fatal, because it takes but little time to let a thing run back, if we depend on seed, and do not know how to save it. He did worse, he bloomed them altogether himself, good and bad, so that there was no dependence to be placed on the seed. These have only to be sown in the open ground in April, and, when large enough, planted out where they are to bloom.

WALLFLOWER.—We have seen acres of Wallflowers without a double one among them ; but the Germans catalogue several double varieties, as brown, purple, golden yellow, &c., and they certainly come semi-double, *and yield seed*. They are, in fact, different to ours *altogether*. *These seeds have to be sown about March, and*

be planted out where they are to bloom as soon as they can be well handled. The English Wallflower is a fine spring flower, though single, and it is not only hardy, but will grow on a brick wall. The double English Wallflower, both the golden yellow and the others, are propagated from cuttings when they have grown an inch long, after the bloom is off.

DAISY.—What is called double Daisy seed, means seed saved from double flowers ; but many of the plants will come single. This plant is hardy enough. Sow the seed very thinly, and in the open air, some time in March ; when they are large enough, plant them out six inches apart, and keep them clear of weeds ; for they are so close to the ground, that they would be smothered, unless often cleaned. They will bloom the first year, and all that come single may be thrown away. The double ones will part into many in the autumn or spring following. Seed saved from double flowers will give about one fourth double.

VERBENAS.—Although these may be sown in the open ground, and will bloom the same season, they may be hastened a month or six weeks by raising them like Stocks and Asters, and planting them out when well grown in pots. In this case they should be pricked out round the edges of pots when small, and be grown in the greenhouse till strong enough to plant out. They are propagated by cuttings struck under a bell-glass, hastened a little by bottom heat.

PRIMULA SINENSIS.—This is sown thinly in pans, to be pricked out when they have two pairs of leaves besides the seed leaf, and, like all other tender things, they do better round the side of a pot than any other way. When well grown, they may be potted singly in three-inch pots, to be ultimately bloomed in pots a size larger. These are essentially greenhouse plants, and cannot bear the winds and rough out-of-door weather.

PLATYCODON CHINENSIS.—A very beautiful bell or cup flower, beginning to open on the top of upright shoots,

all of which spring from the root, no laterals except of the bloom stalks, very like old *Campanula Grandiflora*, but treated of late as a novelty, and grown in the greenhouse. It is, however, a very beautiful and singular plant, dying down every year like *Asparagus*, and coming up with similar buds in the spring. Save the seed in the greenhouse, and prick out four or five round the edge of a four-inch pot, where they may grow the first year. When they die down; let them be without water for a month or six weeks, and then shake out the roots; put one each in four-inch pots, and let them grow on till they bloom. The seed is scarce, but the roots will part for propagation. Very few nurseries appear to have plants.

VERONICA.—Some of these are very pretty and hardy. Others, although so called, are not so, because a hard frost will kill them back to the ground. *Andersonii* is the best. Sow the seed in a pan, and when up, prick them out in pots three or four in a pot, and when large enough, pot singly. The most hardy are *Spicata* and *Spicata Variegata*: these may be sown in the open ground in April, and will bloom in autumn.

LINUM GRANDIFLORUM RUBRUM.—This seed vegetates very unwillingly if sown in the usual way. Some garden conjurors direct it to be soaked in hot water, a process dangerous in young hands. A friend of ours succeeds completely by a less dangerous process. Soak in cold rain water twelve hours, wash the glutinous stuff away a little, soak again another twelve hours in clean water, and wash again; do this a third time, then let the seed be mixed with dry silver sand; sow it in heat, and gradually bring the plants to greenhouse culture, when they may be turned out like other budding plants, or grown on in pots; there is no chance of killing the seeds this way.

HELIOTROPE (*Vulgo* Cherry-pie).—Although there are many varieties of this plant, the distinctions are few. None are striking for their flowers, but they are

valued for their perfume. Gem is the darkest, and Lilacina the lightest; but except that some grow very large, and others small, we should hardly care which we cultivated. It is not worth raising from seed, unless a quantity be wanted with a chance of anything new. There is not a decided colour in the whole family. The seed may be sown early in spring, pricked out and potted; when large enough they may be planted out as soon as the weather permits, for they are tender, and any that are worth it may be potted up for propagation. This may be considered one of the most tender of bedding plants.

MIMULUS.—May be sown in early spring out of doors, but is hastened by in-door culture. The seed must be sown thinly, and the young plants treated like *Calceolaria*, except that the *Mimulus* must be frequently watered, and would bear standing the pots in saucers of water. They may be changed from pot to pot until they are as large as you wish them to be, and you should pull off the first buds, and top the first joint, to make them throw out laterals. These are very beautiful bedding plants, constantly blooming till cut off by the frost; but any that indicate novelty should have all the cuttings taken off at once, and even the old plants potted up before the frost takes them. This plant is improving year by year in size and colour.

A FEW WORDS ON SOILS.

LOAM is the best soil that we can meet with in a garden, and the deeper it goes down the better, but two good spits will be sufficient to constitute good garden ground; such soil only requires to be reinstated after being impoverished by crops. Ordinary stable dung, vegetable mould, or decayed animal matter, are stimulants, and any of them will restore the strength.

CLAY is the worst soil for all purposes, unless its tenacity is counteracted by some means; the most effi-

cacious is burning about thirty tons of it to each acre, and spreading it over the soil that it may be mixed with it. In a garden there are many ways of improving it, the mixture of peat earth, dung, lime, sand, or any thing tending to open the pores is beneficial, and the more it is worked the better it becomes.

GRAVELLY SOIL is only bad because it wastes so much of the manure and lacks moisture ; in dry weather the crops are a good deal distressed and sometimes fail altogether. Ground being stony is not always an evil. If the soil in which the stones appear be loamy, it will bring excellent crops, although inconvenient as to flower beds and borders ; the distinction, however, is that one is only stony soil, the other is gravelly.

SANDY SOIL is always hungry and unprofitable when the sand is in excess. This can only be cured or even assisted by admixture with clay or strong loam : a load of loam or clay would do more good than two loads of manure, but it should always be dressed with both.

PEAT EARTH is the top three or four inches of those wastes or commons in which heaths naturally flourish, and this is valuable as a medium in which to grow all the Erica family, most American plants, and many of those which come from the Cape. As it is full of vegetable fibre half decomposed and sand, it is used with certain portions of loam and dung, according to the plants intended to be grown ; but being extremely light and spongy, it is of the greatest benefit in all composts for potting, because it opens the pores and enables us to bring soils to anything we require.

BOG EARTH is the black vegetable soil which is found in bogs, and is seldom used in any quantity, but it is often misdescribed, and some writers speak of both peat and bog as if they were the same ; there is as much difference as between light and heavy. Take lands generally, the light lands are improved by admixtures of loam, clay and lime ; the heavy lands by dressing of *burned clay, sand, peat and dung.*

LIQUID MANURES.

GUANO.—Dissolve two ounces in two gallons of water. This, like most other liquid manures, must be used instead of water every fourth time of watering, not continuously.

THE DRAINING OF THE DUNGHILL varies a good deal in strength. Immediately after rain, one measure of it to two measures of water will be sufficient; but it will be so much stronger the second day, that you must only use one measure to four.

THE DRAININGS OF STABLES, which are all animal, must only be used in the proportion of one to eight. So also with slops from the house.

LIQUID MANURE made with decomposed horse-dung may be made with a good spadeful, or half-peck measure, to ten gallons of water, and that from decomposed cow-dung, a spadeful to eight gallons of water; sheep, rabbits', or deer's, a spadeful to eight gallons of water.

Everything depends on the strength of what we use; the actual animal liquid must never be used in larger proportions than one to eight.

DESTRUCTION OF VERMIN.

MICE.—Arsenic between two slices of bread and butter will destroy a dozen, if there be as many, in a single night.

SNAILS AND SLUGS.—Lay cabbage-leaves about the ground, and every morning examine the under side, until there is not one to be seen.

EARWIGS.—Lay lengths of bean-stalk about nine inches long on the ground and on the plant, and every morning blow them out into salt and water. It is better than pots on the top of stakes.

GREEN-FLY.—Fumigating with tobacco, where it can be done, is the most effectual. The house in which all

the plants affected should be collected, must be quite filled with the smoke, and shut up close ; the next morning they should be syringed with clean water with the chill taken off. When plants are out of doors, they may be syringed with tobacco water, and afterwards with plain water. Many prefer putting some kind of covering over the plant, and fumigating ; but you may syringe a whole collection of roses in the time taken to fumigate half a dozen. Tobacco water should be of the strength that enables you to taste the weed, but not strong enough to bite the tongue.

MEALY BUG.—Soap suds, warm as milk, made with yellow soap, and a brush that will reach the corners, such as a new shaving-brush, will clean them out better than anything else ; and when you have gone over the plants with it, go over them again with clean warm water.

THE SCALE must be removed, for it is like the shell of the tortoise ; it protects them from everything but actual violence. However tedious the process, they must be scraped off with a blunt-edged piece of wood, or the thin handle of a budding knife, or a stiff brush. The use of urine and soft soap to hard-wooded plants is said to be effectual.

THE RED SPIDER.—Occasionally steaming the house, and frequent syringing of the plants, are positive preventives ; and if neglected till the pest has got fair hold of a plant, they can only be extirpated by the same means in a more violent degree. Black sulphur powdered on the leaves will destroy them where it goes ; but as these enemies attack the under side, they often get overlooked, until they have seriously injured a plant.

ANTS.—These are dangerous enemies when they get among plants. They sometimes form a little colony in a pot, work among the roots, form the whole ball *into a sort of sponge*. In such case, it is the surest ~~remedy to stand~~ plant in water till they are drowned ;

but the plant will then have to be drained, and re-potted in fresh soil.

ANTS IN THE GROUND.—If their chief haunts can be found, and there be no plants to injure, a kettle or two of boiling water will despatch a whole colony. If they are where you cannot get at them for plants, make a number of perpendicular holes with a smooth rod two or three feet deep, and they will fall in by hundreds, and cannot get up again.

GARDEN WORMS.—These are often troublesome on lawns and gravel walks. Water with lime-water, and it brings them up to the surface; before they recover, pick them up and destroy them.

THE TEMPERATURE AT WHICH PLANT-HOUSES SHOULD
BE KEPT DURING EACH MONTH IN THE YEAR.

JANUARY. *The Greenhouse.*—From forty to forty-five degrees by day, and from thirty-five to forty degrees by night. *The Conservatory.*—From fifty-five to sixty degrees by day, and about forty-five degrees by night. *The Plant Stove.*—From fifty-five to sixty degrees by day, and from fifty to fifty-five degrees by night. *The Orchid House.*—The flowering-house from sixty to sixty-five degrees by day, and fifty-five to sixty degrees by night; the testing-house from six to ten degrees colder.

FEBRUARY. *The Greenhouse.*—From forty to fifty degrees by day, and from thirty-five to forty degrees by night. *The Conservatory.*—From fifty to sixty degrees by day, and about forty-five degrees by night. *The Plant Stove.*—From sixty to seventy degrees by day, and from fifty-five to sixty degrees by night. *The Orchid House.*—Warm or Indian house from sixty to seventy degrees by day, and from fifty-five to sixty degrees by night; cool or Mexican house from five to ten degrees lower.

MARCH. *The Greenhouse.* From forty-five to fifty degrees by day, and from thirty-five to forty-five degrees

by night. *The Conservatory*.—From fifty-five to sixty-five degrees by day, and about forty-five degrees by night. *The Plant Stove*.—From seventy to eighty degrees by day, and from sixty to seventy degrees by night. *The Orchid House*.—The warm or Indian house eighty degrees by day, and seventy degrees by night; the cool or Mexican house seventy-five degrees by day, and from sixty to sixty-five degrees by night.

APRIL. *The Greenhouse*.—From forty-five to fifty-five degrees by day, and from thirty-five to forty-five degrees by night, allowing five degrees more when sunny. *The Conservatory*.—From fifty-five to sixty-five degrees by day, and from forty-five to fifty degrees by night. *The Plant Stove*.—From seventy to eighty degrees by day, and about sixty-five degrees by night. *The Orchid House*.—The warm or Indian house from seventy to eighty-five degrees by day, and from sixty-five to seventy degrees by night; the Mexican or cool house may be kept from five to ten degrees lower.

MAY. *The Greenhouse*.—From fifty-five to sixty degrees by day, and forty-five degrees by night. *The Conservatory*.—From sixty-five to seventy degrees by day, and about fifty degrees by night. *The Plant Stove*.—From seventy-five to eighty degrees by day, and occasionally higher with sun heat, and from sixty to sixty-five degrees by night. *The Orchid House*.—The warm or Indian house from eighty to ninety degrees by day, or more by sun heat, and about seventy degrees by night; the cool or Mexican house may range about seventy-five degrees, or rather more with sun heat, and sixty-five degrees by night.

JUNE. *The Greenhouse*.—From fifty to sixty-five degrees by day, and fifty degrees by night. *The Conservatory*.—From seventy to seventy-five degrees by day, and about fifty-five degrees by night. *The Plant Stove*.—From eighty to eighty-five degrees by day, and sixty-five degrees by night. *The Orchid House*.—The warm or Indian house, from eighty-five

to ninety degrees by day, and about seventy degrees by night ; the cool or Mexican house, seventy-five degrees by day, and sixty-five degrees by night.

JULY. *The Greenhouse.*—From sixty-five to seventy degrees by day, and from fifty to sixty degrees by night. *The Conservatory.*—From sixty to seventy degrees by day, and from fifty-five to sixty degrees by night. *The Plant Stove.*—From seventy to eighty-five degrees by day, and from sixty to seventy degrees by night. *The Orchid House.*—The warm or Indian house, from eighty-five to ninety degrees by day, and seventy degrees by night ; the cool or Mexican house, from seventy-five to eighty degrees by day, and from sixty to sixty-five degrees by night.

AUGUST. *The Greenhouse.*—From seventy to seventy-five degrees by day, and from sixty to sixty-five degrees by night. *The Conservatory.*—From sixty-five to seventy degrees by day, and sixty degrees by night, and shade in bright weather. *The Plant Stove.*—From seventy to eighty-five degrees by day, and from sixty-five to seventy degrees by night. *The Orchid House.*—The warm or Indian house from eighty-five to ninety degrees by day, and seventy-five degrees by night ; the cool or Mexican house from seventy-five to eighty degrees by day, and sixty-five degrees by night.

SEPTEMBER. *The Greenhouse.*—From sixty to seventy degrees by day, and from forty-five to fifty degrees by night. *The Conservatory.*—From sixty to seventy degrees by day, and from forty-five to fifty degrees by night. *The Plant Stove.*—From seventy-five to eighty degrees by day, and from sixty to sixty-five degrees by night. *The Orchid House.*—The warm or Indian house eighty-five degrees by day, and seventy degrees by night ; the cool or Mexican house seventy-five degrees by day, and sixty degrees by night.

OCTOBER. *The Greenhouse.*—From sixty to sixty-five degrees by day, and about forty-five degrees by night. *The Conservatory.*—From sixty to sixty-five degrees by day, and about fifty degrees by night. *The*

Plant Stove.—From sixty-five to seventy-five degrees by day, and from fifty-five to sixty degrees by night.

The Orchid House.—The warm or Indian house, from eighty degrees by day, and about seventy degrees by night; the cool or Mexican house, from seventy degrees by day, and about sixty degrees by night.

NOVEMBER. *The Greenhouse.*—From forty-five to fifty degrees by day, and about forty degrees by night.

The Conservatory.—From fifty-five to sixty degrees by day, and from forty-five to fifty degrees by night, and use fires occasionally in damp weather. *The Plant Stove.*

—From sixty to sixty-five degrees by day, and from fifty to fifty-five degrees by night. *The Orchid House.*

—The warm or Indian house from sixty-five to seventy degrees by day, and about sixty degrees by night; the cool or Mexican house, from sixty degrees by day, and fifty-five degrees by night.

DECEMBER. *The Greenhouse.*—From forty to fifty degrees by day, and thirty-five to forty degrees at night, or just safe from frost. *The Conservatory.*—About fifty-five degrees by day, and from forty-five to fifty degrees by night.

The Plant Stove.—About sixty degrees by day, and about fifty degrees by night. *The Orchid House.*

—The warm or Indian house, from sixty-five to seventy degrees by day, and from fifty-five to sixty degrees by night; the cool or Mexican house, sixty degrees by day, and fifty degrees by night.

SHADES FOR PLANT HOUSES.—The best we know of are rolling cloths outside. The cloth is fastened to the top of the roof, covers all the slope and down to the brickwork in front; a roller being fast to the lower part of the cloth, this is drawn up, and when quite closed it is fastened under a sort of roof just wide enough to cover it from the weather; these are manufactured by Benjamin Edgington, of Duke Street, London Bridge, who has a good deal to do with shades of various textures, waterproofed and otherwise, for conservatories, tulip beds, and the like.

GOLDEN RULES FOR GARDENING.

NEVER trust your choice plants to the management of ordinary men. Too much or too little water will greatly damage them ; and none but he who has watered them knows what they want.

Never waste animal or vegetable refuse. The very soapsuds from the laundry are rich manure.

Whenever you have the opportunity, dig in the waste of the crop you took off ; it is so much good returned.

Have all flower-pots washed, dried, and put away as soon as they are empty. Never put the most common plant in a dirty pot.

Never fill a pot so full of soil but that it may hold water enough to go through it : every pot should have half an inch left for water.

Never grow a bad variety of anything, if you can help it. It takes the same room, and wants the same attention as a good one.

Study economy in the means you use to grow everything. It is impossible to be too careful in this matter.

Never look out for cheap seed-shops. It is only by getting good prices that a seedsman can supply articles to be depended on.

Let the draining of the ground be your first care. It is impossible to succeed to any extent with vegetables or flowers where the water is stagnant in the soil.

Cover all seeds with at least their own thickness of soil ; but as some of it gets washed off, you must allow for it.

Gather fruit in dry weather and with the sun shining, and place them as carefully in the basket as if they were glass. The smallest bruise commences a decay.

Never subject a plant to a rapid change of temperature. Sudden check or sudden excitement are equally injurious.

Unless you want seed, remove the flower stems as soon as the bloom decays. The swelling of the seed pods checks the further growth and blossom of most plants.

Never grow the same crops nor crops of the same family twice on the same spot without an intervening crop of a different nature.

Never transplant shrubs and trees in a growing state. However carefully it may be done, the check is dangerous, if not fatal.

Keep all kinds of plants under glass, as close as possible to the light: there is no exception, unless it be some orchidaceous plants.

Never tie up lettuces or endive, or earth up celery, except when perfectly dry. They are sure to spoil if you do.

Never crowd your plants in or out of doors. Half the plants under glass are spoiled by this alone, and much of the nursery stock is ugly from the same cause also.

Keep your plants clean. Dust and dirt on leaves make the plant unhealthy, and will in time kill it.

Plunge even hardy plants that are potted. A frost which could never reach the roots below the surface may destroy all the fibres if the pot be exposed.

Never allow the surface of the soil in a pot or in the ground to be long without stirring, unless it be naturally very open, as is the case with peat earth.

Never pot a plant without giving one-fourth in height of crocks (broken pots) or other drainage to the other three of compost.

Never grow a plant too fast: it is no credit to you, because anybody can do it, and it spoils the plant to a certainty.

Never train or support a plant unnaturally. Climbers will not do hanging about. Trailers will not do climbing.

Grow a plant as it would grow naturally, and supply only what in such case nature does not.

Never sweep a gravel-walk with an old broom. It not only tears the edging, but it also scrapes up the walk itself.

Mow lawns before the dew is off the grass, unless you have a machine, which cuts it best when dry.

Rapid growth makes a mild flavour, slow growth a strong one. Therefore grow vegetables quick, and fruit moderately. The exceptions are where size is valued more than flavour.

Never tear out the bast from any mat, but devote a new one to tying purposes, and have that pulled to pieces at once, and kept damp.

Temper stable dung by repeated shakings out, waterings if too dry, and turnings over before you use it for hot-beds or linings. If this be not done, it will burn.

Carefully preserve the fallen leaves of trees, and procure as many as you can ; when rotted into mould the produce is invaluable.

Keep your seeds, bulbs, tubers, &c., in a place where neither heat, nor frost, nor damp can reach them ; for either of these would destroy many.

Waste not a pint of rain water. Let every drop be caught somehow, for it is the best of all water for plants.

Hoe the surface of the ground all over once a fortnight, upon the same principle as servants sweep the rooms.

Let not the moisture that runs from the dung-heap be wasted ; it is too good for the cultivated part of the ground, to be lost to it.

Never allow weeds to bloom ; it is the worst proof of thoughtlessness. One day devoted this year will save a month's application next.

Never remove a plant from one place till you are ready to put it in another, unless to get rid of it.

Whenever a plant suffers the loss of root, always prune off a corresponding portion of the head.

Cut off with a sharp knife whatever part of a root may be broken, bruised, or damaged ; it instantly commences a decay.

Never trample on the ground in wet weather, or while the ground is swampy ; rather delay the work. Even planting out things, is better as the ground dries a little.

Encourage robins and toads. They are good friends to gardeners, because they destroy their enemies.

Procure, whenever you can, turves cut from a pasture, to lay in a heap and rot. "A store is no sore." It is the best of all composts.

Never allow the greenhouse, hot-house, or pits, to be so hot in the night as by day.

Never light a fire for the greenhouse while you can keep out the frost by covering up.

Constantly examine your plants, to watch for the enemy's attack. The mealy bug, scale, green-fly, and red-spider must never get ahead of you.

The syringe is the gardener's friend ; well applied under and over the leaves, it routs the insect tribe, and saves immense trouble of catching and killing.

Never use a clammy soil for potting plants. It is impossible they can grow well in it.

Always trench the ground before sowing carrots, parsnips, and beet-root.

Always keep frozen plants from the rays of the sun till they have completely thawed.

Cover seeds from birds with a mat until they are well up, and then devote a day or two to actually scaring the enemy, until the plants gain strength.

Prune all ornamental blooming trees and shrubs as soon as the flower has decayed : before they make their new growth, you can shape them as you like.

To poor sandy soil one load of marl or loam is worth *two of dung* ; but give both if you can, and lime into *the bargain*.

The instant you see a moth, butterfly, or wasp, catch it and kill it. You know not how many you prevent from annoying you afterwards.

Let your rule for shifting a plant be when its roots begin to cross each other at the sides, and before they become matted.

Always give plants all the air you can without lowering the temperature too much.

Let plants stand hollow at the bottom. A flat bottom to the pot and a flat shelf will, after watering, exclude air for hours. There should be grooves along the shelves.

In apportioning crops, never grow too much of anything that does not last in season, and will not keep when gathered in.

In removing trees and shrubs, never loose a fibre by violence. You can remove what you please with the knife; but if broken off or chopped, you lose the best.

In all your main operations, perform or superintend as much as possible yourself. Plants do not like changes of masters. They get fed too much, or starved.

Leave your newly-trenched or dug ground rough until you crop it. In winter time it is exceedingly beneficial.

When a crop is done with, clear it off, lay on your dressing, and at once dig or trench the ground; put all the waste vegetable to the bottom; it is so much nourishment returned, and the ground looks neat.

Never lose an hour's favourable weather for operations dependent on it; for a hard frost may close the garden against you for weeks, and throw you altogether out of your calculation.

Never water a general crop till it actually begins to suffer; for rain may render it unnecessary, and watering once begun you must go on with it.

When you do water, drench the ground all over. One soaking a-week is better than partial watering every day; and rain may save you a turn now and then.

When you are provided with valuable seed or plants by your employer, keep them to yourself some time. It is no use to buy expensive things, if others are allowed to share it too soon.

Buy nothing in "collections of named varieties." You get forty-nine useless for one useful. Find out which are best, and purchase them only.

Propagate nothing but what is useful. You may soon get crowded with plants you do not want, and find yourself short of what is of real service.

Sow everything thinly and evenly. Never waste seed by stinting it of room. The plants are always the worse for it.

Begin pruning in time to get all done by the proper season. Those which are pruned too early take infinitely less harm than those left too late.

Thin all sorts of fruit; not merely those on the wall,—for everybody does that,—but those on standards. Let there not be one above an average crop. The tree will give you this every year.

Drench your American or bog plants with water as soon as they flower, and never leave off till they have completed their growth. They will never fail to set their bloom.

Cover your trees on a south wall from the sun all the winter, rather than from frost. Your whole study should be to keep them back. In the spring cover lightly from both.

Loosen your trees from the wall where it is practicable, at least all the young wood. It retards the bloom, which will, by being later, get better over the spring changes.

Let no covering of trees, beds, houses, pits, or glasses, exclude the daylight. Plants cannot do well in the dark.

Never roll gravel walks until rain has soaked into *them* and they have dried enough to prevent any sticking to the roller.

Never allow grass verges to intrude upon your roads or walks. Keep them in check by the edging iron, and your paths and roads clean with the hoe.

Go round the place after a shower of rain to see where the water lies, and fail not to fill up the hollows in time.

Never let one branch on a plant take up the growth to the disparagement of the rest. Cut it clean back to where it starts from, rather than let it conquer.

Never see a flower or plant blown about for want of a stake. If broken off they cannot be mended, and after lying on the ground long they never recover their beauty.

Study the habitat of plants; find out where they come from, and it is a safe guide.

A hardy plant may come from a warm country, but a stove plant cannot come from a cold one.

Never try experiments with the only plant you have; but when you have two or more, do as you like.

American plants are of easy culture, if we set about it in the right way.

Never have a straight path in a landscape garden, nor a bent one in a kitchen garden.

In a geometrical flower-garden plant everything uniform.

In all uniform flower-beds, have not only uniform colours, but the same plants also.

Always contrive to have a succession of plants that will be in flower as soon as possible after planting.

Imitate Nature in landscape gardening; not in her most ugly, but her most attractive features.

Carry out all your planting plans as much as possible with evergreens; they look well in the winter.

Keep all verges of grass well trimmed, the paths well weeded, the shrubs well pruned.

In choosing flowers, select those which have a large proportion of bloom compared with the foliage.

Hardy flowers are very interesting.

In forcing flowers, bring everything into the higher temperature gradually : to submit a plant from cold to heat suddenly is destructive of the flowers.

All hard-wooded plants force better the second year than the first, if they are permitted to complete their growth after flowering, and have rest.

When flowers are nearly opened, they must be gradually inured to colder temperatures. Taken suddenly from heat to cold they flag, and often do not recover.

Pot them with plenty of room for their roots, and in soil free from dung ; you do not want to excite growth.

Window gardening is very like greenhouse culture, and the nearer you assimilate the practice the better.

GOLDEN RULES ON CULTURE.

CULTURE OF THE AURICULA.

Avoid all nostrums in the compost. It may be rich in vegetable mould, or cow-dung, porous by means of peat earth, and strong by means of good loam.

Never pot a plant without removing every symptom of decay. The smallest bit left will increase, and destroy the plant in time.

Always keep the collar of the plant even with the surface of the soil.

Water seldom in winter time, and never till they want it.

Frequently examine the drainage, and see that the water exudes freely. A stoppage is soon fatal.

Remove leaves as soon as they begin to turn yellow.

In open weather let them have all the air you can give them ; but not in damp weather or east winds.

Never fail to top-dress them in February with decomposed cow-dung and a little sand, or if you have poultry-dung rotted into mould, one-fourth, with the same of loam, sand, and cow-dung.

From plants intended to bloom strong, remove side shoots as soon as they are large enough to take off and strike.

When they show the colour of their bloom, remove them to shelter and shade, to open, and adjust the pipes to form a neat truss.

As soon as the bloom declines, put them on a dry hard bottom, to receive all the weather but the mid-day sun until July ; then protect from heavy rains.

In August turn them out of their pots, examine their roots, remove all canker, and repot in new soil. They must then be returned to their frames.

CULTURE OF THE TULIP.

Fix your spot for the bed in the best drained part of the garden, and make it four feet wide.

Always dig out the soil two feet deep at the least, and fill it with loam from rotted turves.

Plant the bulbs six inches apart every way, and six inches from the edge of the bed. This makes seven rows the length of the bed.

Arrange your bulbs so as to have the same varieties on both sides of the middle flower. Of course it requires two of a sort in a row.

Plant the lowest outside, the highest in the middle, and the intermediate heights between.

Let your rule for planting be the bulb beginning to swell. The instant it begins growing out of the ground it commences a weakening process.

Generally plant from the 15th October to 15th November, always in dry weather, three inches deep from the tip or crown.

Never use a dibble ; level your bed ; place all the bulbs, and throw the dry soil on them thick enough.

For an ordinary bloom, let the bed have all the weather till the bulbs are up : for exhibition, let no frost touch them, nor the soil they are in.

When they are up an inch, stir the surface of the earth, bruise the lumps, and lay it close round all the spikes.

Cover from frosts, under any circumstances, when the leaves begin to open.

Never let a weed appear among them. It injures the bulb, and looks unsightly.

When they show colour, they must be shaded from the sun, which, if not kept off, would greatly shorten the bloom.

When the bloom has declined, pick off all the seed-pods, and remove all coverings; and after the first rain, stir the surface.

When the stem has turned yellow, and the leaves begin to decay, take up all the bulbs.

Dry them in the shade with the dirt all about them; and when thoroughly dry, clean them and put them away.

Save seed from a few of the best kinds planted together without any protection.

Sow a little seed every year. You will one day find a little fortune in your stock. There is room for much improvement.

Rather destroy seedlings that have not broken than let them out; for others would be breaking the same flowers as your own, and giving them new names.

Never sow seed of which you do not know the origin; for it is seven years before you see whether it be good or bad.

Examine the bulbs in store frequently; because they are subject to mildew, mice, and the green-fly.

CULTURE OF THE PANSY.

LET the ground be well drained, and well dressed with decomposed cow-dung; and if too adhesive, fork in a little sand.

Plant nine inches apart, and close the earth well about the roots.

Always take side shoots springing from the bottom for propagating, if you can get them. They always root freely, if not rooted when taken off.

Avoid taking hollow pipey shoots for cuttings. To ensure striking, the bottom of the shoots, when cut up to the base of a leaf, should be solid.

Shade all cuttings, and cover close with a hand or bell glass, whether they are in frames, boxes, pots, or the open ground.

Continue planting beds of struck cuttings, to succeed one another in flower. It is only from young plants we can get fine blooms.

Shade all blooms for exhibition. An hour's hot sun would destroy the finest flowers in the bed.

Save seed from half a dozen of the finest varieties you possess, planted by themselves away from all others.

Sow as soon as you save it, in May, June, July, and August, as it may happen.

Plant them out as soon as they have four rough leaves; but press the earth to the roots every time the frost and thaw disturbs them.

In winter, if you have convenience, hoop and mat, or otherwise cover the bed—if with nothing else, with litter.

In spring, the beds of seedlings or established plants may have half an inch thickness of dung from an old hot-bed, or well decomposed cow-dung.

As fast as any seedlings bloom inferior to those you have, pull them up and throw them away.

Never wait for any particular season for taking off side shoots: take them whenever you can get them without distressing the plants.

Water seldom, but effectually: soak the whole bed to a considerable depth.

Towards October pot all cuttings that you do not want to plant out, and keep them under glass in thumb-pots.

If you bloom any in pots, use seven or eight-inch pots, with a compost of two-thirds loam from rotted turves, and one-third cow-dung, or dung from an old melon-bed.

Never save a seedling that is not better than those we possess already. All novelties that are not improvements are useless.

Whenever the surface of the bed has run together solid, stir the top one or two inches, always closing the earth to the roots.

Never allow a weed to grow in the bed. A little neglect in this matter will give you a world of trouble.

Never remove a good seedling till you have propagated it a little. When you have cuttings struck, you can do as you like with it.

Never remove a plant from heavy soil to light, without washing out all the old soil from the roots.

Plant your principal spring blooming bed in October ; the succession ones any time when the plants and the weather suit.

CULTURE OF THE PINK.

NEVER grow a pink in poor soil. It is not like some flowers, which merely grow less ; but it actually loses its character.

Prefer cow-dung to horse-dung ; but either should be fairly rotted into mould.

Let the loam you use be that obtained by laying common turves, cut as if for lawns, up to rot. It is good at two years old.

Use two parts loam, and one part dung ; and make your bed eighteen inches deep.

Plant nine inches apart, as soon after July as you can get your plants.

Never let more than one stem go up to each plant, nor more than two buds be left on to bloom : any very crowded flowers excepted.

When in flower, take off the bottom shoots for pipings. The top three joints are to be used.

Mix up some of the proper pink soil, with a little sand to strike your pipings in.

Stick the pipings half an inch in the compost, and freely water ; cover close with a shallow hand-glass, and shade them.

As the bloom pods swell, tie them round the middle with a piece of matting, to prevent the calyx from bursting.

As the petals develop themselves, assist them down into their places, and shade them always from the hot sun.

Give them, from the time they swell their pods to bursting, liquid manure (a gallon of decomposed cow-dung to five gallons of water) once to three plain waterings.

Never leave in the bloom a self-coloured petal : take it out when you first see it ; for one of these will condemn a whole stand of flowers.

Never let your pipings under the glass get dry ; for it is certain destruction.

When rooted, remove them into their permanent beds, or into store beds, three inches apart in the row, and the rows six inches.

Never delay planting till the spring, if you can get your plants in autumn. The sooner they are settled down, the finer they bloom.

CULTURE OF THE ROSE.

Be not afraid of using the knife. One eye is enough to leave of any branch on the last year's growth, unless you want more to form the plant.

Strong loam, two-thirds, and one-third dung, will grow the rose to perfection ; but ordinary garden

ground, with a good spadeful of dung to each plant, will do.

Standard roses should be as wide across the head as the lower branches are high from the ground.

In pruning, retain all healthy branches that are growing in a right direction ; but once get the form of your head, spur close every year.

Cut down all upright growing branches to the height you want side ones, leaving the top bud pointing in the direction they ought to grow.

For the general feature of your garden use none but continuous bloomers ; that is, those of the nature of the common China.

Summer roses which bloom a month and no more are worthless, except for exhibitions which take place that month.

If you will grow summer roses, give them a portion of the garden to themselves. Never let their flowerless heads cast a gloom over the borders from July till November.

Half prune in the autumn, to lessen the weight which has to stand against the wind : finish in February.

In planting roses, never fail to cut off with a clean sharp cut every portion of damaged root. Bruised ends and ragged wounds are often fatal.

Plant briars, and other stocks for budding, in the autumn, that they may be well established when wanted.

Bud roses when the bark of the stock will part easily from the wood, and be very rapid in performing the operation.

Bud as close as possible to the main stock. It makes a better head, and is close to its support.

Put cuttings of roses in the open ground in October and November, two joints underground and one or two above.

Get roses, as soon as you can, into the form you want.

Cut every year's growth back to a single eye or two. *This applies to dwarfs, standards, bushes, and climbers*

A tender rose on a standard will take less harm if lifted and laid in by the heels, under shelter, than it will if it stands out. Plant again in the spring in its proper place.

Tender roses may, nevertheless, if you like the appearance, be tied in close, and covered with moss, straw, or matting, or even with an oiled paper cap.

Cut off all fading flowers. It helps the remainder, and prolongs the bloom, besides looking neat and clean.

Strike all cuttings at the fall of the leaf in preference to any other time, and an ordinary border will do for them.

China varieties that grow and bloom all the year under glass may be budded or grafted at any time, so that the stock be also China and growing.

CULTURE OF CARNATION AND PICOTEE.

HAVE soil for blooming in, rich, light, strong, and porous ; loam from rotted turves, dung rotted to mould, and clean turfy peat, in equal portions by measure, well mixed.

Choose plants with healthy green foliage, free from spot or stain, and without side shoots, in September, well rooted.

Pot them two in a forty-eight sized pot, in clean undunged loam from rotted turves.

Let every grain of soil go through the hand, to detect any living enemy, such as wire-worm, grub, earwig ; also any nests of eggs.

Keep them all the winter dry, cool, and airy. A common garden frame on a stone bottom is the best winter quarters.

Give them in open weather all the benefit, by totally uncovering. In cold north-east winds give air on the *opposite side*, by tilting.

In damp weather close them up, and only water when they are getting almost too dry.

Bloom them in size-twelve pots, in the proper soil. Turn the ball of earth into the new pot in March or April, without disturbing the roots. Well press the soil round it.

Let them have a sheltered place until May, when they may have all the sun, rain, and wind.

Put stakes down the centre of the pot, to tie up the blooming shoots as they grow ; and look to this daily.

Always keep them moderately moist ; but never water a little : let the water go right through the soil every time you give any.

Let but one stem go up to each plant, and leave but three buds on each stem, not too close, to bloom freely.

When the buds have swelled, and before they burst, tie them round the middle with some bast matting or other strong material.

When the colour shows, tear down each division of the calyx to the tie, that the petals may be free all round alike, and open equally.

As this flower will often have the proper outside petals cramped up in the middle, and small ones outside, bring the petals into their proper places as they open.

The more tiers of perfect petals a flower has, the better ; but every imperfect one is better pulled away than left in.

Layer all the side shoots that are long enough, and pipe like pinks all those which are too short, and when they have struck root well, pot them the same as those you bought at first.

CULTURE OF THE ANEMONE.

GROW in soil composed of clean friable loam, and *perfectly decomposed* dung, half and half, well mixed, and *eighteen inches* deep.

Draw drills three inches deep, six inches apart, and press the tubers in at the bottom the same distance from each other ; lay the earth close, and cover two inches.

Plant in October for early blooms, and February for late ones ; but the autumn planted must be protected in severe weather.

When up, stir the earth among them, bruising the lumps, and laying the soil close to and among their stems.

In very dry weather water them occasionally, but enough to soak the earth of the whole bed, if you have to repeat it ten times before you accomplish it.

When in bloom, shading prolongs the flowering considerably. If you do not want the seed, cutting off the decayed flowers still assists them.

If you desire to save seed, tie a bit of bast matting, or put a label to those you want to save from, and save none other.

Sow seed, when it ripens, in boxes or pots, and put them in a cold frame. They will be up and growing by the spring.

When large enough, plant them out in rows three inches from each other in the row, and the rows six inches apart, to remain till they bloom.

Never allow a single weed to grow among them. It is death to the nearest, and it may be the best.

Take up the tubers directly the leaves turn yellow, and dry them in the shade previous to storing them till the next blooming time.

CULTURE OF THE CALCEOLARIA.

Do you want to excel ? Save your own seed ; raise your own varieties, and go ahead.

Buy three or four of the best, and no others ; bloom them in the open air close together, and take care of *your seed*.

Sow the seed as soon as it is ripe in pots or pans in the greenhouse. Never allow the soil to get dry afterwards; and when up, shade them.

As soon as they are large enough to handle, prick them out round the edge of a forty-eight sized pot, an inch apart.

When they touch one another, pot them singly into sixty sized pots. Keep them near the light.

Best compost, loam from rotted turves, decomposed cow-dung, and turfy peat, in equal quantities.

When the pots fill with roots, change them for forty-eights; and a cold frame will be better than the greenhouse, all the fine months.

As the flowers come, let the plants be shaded; turn out all that are worse than the originals. They will not be worth room.

Propagate at once any that are as good as the originals, and different; and, of course, all that are better.

You want flowers as round as cherries, and the nearer you can find any the better.

Propagate, by taking off the side shoots. If they are not already rooted, they will soon strike under glass, in the greenhouse or cold frame.

In winter keep them cool, dry, and airy. In summer they must have shade, and plenty of water, but good drainage.

CULTURE OF THE RANUNCULUS.

NEVER let the tubers touch raw dung. Grow them in clean compost,—turfs rotted into mould, cow-dung rotted into mould, an equal quantity of each, and eighteen inches of it in the bed.

They will grow in any light rich earth in well-drained ground; but this may be formed many different ways.

Plant them in drills drawn six inches apart, and plant *them at the bottom* of the drills the same distance from *each other*.

Close the earth well upon the tubers, and let them be covered two inches, but close and solid, though not rammed hard.

Plant in October for spring blooms, and February for summer flowering ; but the most choice and valuable kinds should be planted in February.

When the plants are up, stir the earth and bruise the lumps, so as to lay it close about the roots and stems.

Water in good earnest in dry weather, and shade from the burning sun : saturate the earth of the whole bed, or leave it alone. Partial watering is worse than none.

Shade the flowers, to prolong them ; and if too numerous for the health of the tuber, cut off all after the first three or four that open.

As soon as the leaves turn yellow, take up the tubers, dry them in the shade, and when perfectly dry, put them away in their boxes, secured from heat, damp, and frost.

Examine the tubers occasionally in their store boxes, to see that they are not getting damp, or mouldiness, or insect of any kind, and brush them all clean.

Turn out the soil from the beds to sweeten, six weeks before you plant again : but a new bed every year is the best.

Sow seed as soon as it is ripe in pots or pans, and place them in a cold frame or the greenhouse.

Sow thinly, but equally, that they may remain in the seed-pans the whole first season's growth.

When the leaves decay, take up the little tubers carefully, and in October plant them six inches apart like old tubers.

Throw away, or give away, or get rid of all that are not so good as you have already ; or you may save seed from all of them, to get rid of, not to sow.

Mark and describe all that are worth taking care of and naming, that you may secure them at *taking-up time*.

CULTURE OF THE POLYANTHUS.

RICH and strong soil is best adapted for this favourite flower. They cannot prosper in compost too light.

Two-thirds loam, in which the turf has been rotted cut from a pasture as if for laying down, and one-third decomposed dung, will make a good border.

The compost should be a foot thick, and the border shaded from the three or four hours of the hottest sun.

Buy your plants small and well-rooted, before October. Plant them nine inches apart on your border or bed, spreading the roots out, and gently pressing the soil on them.

Water them in well, to settle the earth about the roots, and see that they never flag for want of it; and soak the bed well when you water at all.

They want no more attention, except to prevent a slug from reaching them; for slugs are destructive to the beauty and health of the plant.

When they bloom, mark those you intend to save seed from, but take away the dead flowers from those that are not to seed.

When the seed-pods turn yellow, gather them before they burst, and lay them by in their pods till sowing time, which should be April.

When the plants are past bloom they may be parted into as many pieces as you can make, so that a portion of root and a single heart is complete in each.

Let these be planted out immediately in the borders or beds where they are to bloom; they will soon grow fast.

Polyanthuses in pots require lighter soil than when out in the borders. Add to the usual soil one-fourth of its bulk in turfy peat.

Pot them as soon as they have grown into strength after parting; let one-fourth of a thirty-two sized pot *be drainage*.

Let the soil be put in highest in the middle, and

spread the roots out all round ; let the collar of the plant be even with the surface.

When plants are newly potted they may be as high pretty nearly as the edge of the pot ; the soil will subside half an inch below, which is the right height for permanent potting.

These must be plunged in the border, with a hole reaching far below the pot, to let the draining go through ; or,

Kept in a frame with a dry bottom, and only covered against severe frost and easterly winds ; at all other times the glasses off.

When the bloom begins to open, take the pots to a sheltered and shaded spot, to complete their flowering.

CULTURE OF THE CINERARIA.

PROCURE at blooming time half a dozen of the roundest and prettiest flowers you can find, all different in colour.

Place these close together in the greenhouse, or in the open air, if the weather be fine.

Water carefully, see the drainage all clear, watch for the pods of seed, and save all you can.

Sow this directly in pans, in the greenhouse ; or you may start in a hotbed or stove if you like.

As soon as they have four leaves, prick them out round the edges of pots, an inch from each other.

When they have outgrown these, pot them in sixty-sized pots, till they fill these small ones with roots ; shift them then to forty-eights.

Continue the growth in these pots till they bloom, when you may select a dozen better than you can buy, unless you are unlucky.

Grow them in half loam, from rotted turves, a fourth turfy peat, and a fourth decomposed cow-dung, or dung from a melon-bed.

Use the side shoots for increasing a favourite variety. If they are rooted they will grow directly ; if not, strike them under a bell-glass.

CULTURE OF THE CAMELLIA JAPONICA.

Buy your plants of shrubby form, dark green foliage, without any vacancies where leaves have been and dropped.

Examine the roots in the old ball of earth, and if healthy, merely keep them well supplied with moisture till the bloom has gone by.

Now the plant will want to make its growth, and it is the time to remove, not only ugly rambling branches, but all buds that are in the places where branches are not wanted.

Be not afraid of the knife ; as you can see all the shoots that would make branches, cut your plant into such form that the new growth will make it handsome.

Shift them to larger pots, and keep them in the greenhouse until they have completed their new branches.

They may then be set out in the open air, where they may be shaded from the mid-day sun ; here they will swell their bloom-buds.

In September place them in the greenhouse, or a cold pit. They only require to be kept from severe frosts and too much wet.

Each year requires the same routine of treatment, and no part of the treatment requires more care than the pruning.

Plants may be kept smaller, and closer, and handsomer, by previously cutting in uncouth branches after blooming.

Stocks for grafting should be strong growers ; cuttings strike freely ; and at two years old are fit.

To graft, cut down the stock to an eye, within two

inches of the soil ; cut one side a little, to make a flat slope ; now cut a piece of wood with a leaf on it, and make it fit.

But no matter how a graft and a stock are cut ; so that they properly fit, and the barks meet, they are sure to unite.

Inarch grafting is cutting a flat place on the stock, and another flat place on a plant that you want to graft, and tying the two plants together.

When these unite, cut off the plant below the joint, and all the stock above the joint. The branch or bud of the plant united is all that must be allowed to grow.

CULTURE OF THE DAHLIA.

FIRST get your plants, the best varieties of which are generally found enumerated in "Glenny's Garden Almanac."

You obtain these in May ; trench your ground and moderately dress it, when they may be planted six feet apart every way.

The best plan is to drive down your stakes, before planting, right through the soft trenched ground into the hard, and all perfectly adjusted.

Now plant the Dahlias close to the stakes, and at once release all ties and sticks that were in the pots ; and place the pots with a bit of moss in them on the top of the stakes.

Water them in with no sparing hand ; a water-pot full each will be useful, because they should want no more.

From the first day examine the pots, to destroy the earwigs. Every one you kill now will be better than twenty in a month hence, and never relax a single day.

If you want dwarf plants, take off the tops ; you may strike them, and make other plants of them.

As Dahlias grow, they must be carefully fastened to the stakes ; and if you mean to grow them in perfection, you must provide four or five side stakes.

As the plants spread, the side branches must be supported with ties not easily broken.

Take out all weakly branches, and thin the blooming buds, but do not over-prune them.

If you grow for exhibition, and the present vulgar taste for large coarse blooms continues, give liquid manure.

Never water without doing it effectually ; soak the whole ground around them once a fortnight, and it will do more good than partial watering every day.

Shade the blooms you want from the heat of the sun ; but if you want them to travel well, and be of good colour, never cover them from the air.

Sow seed in March or April, in a hot-bed or stove, and when up, and with four leaves, prick them out half a dozen in a forty-eight sized pot.

Place them in the greenhouse, and give them air in fine weather.

At the end of May plant them out eighteen inches apart, in rows three feet apart.

Support them with stakes about every eight feet, and one cross lath a foot from the ground, and another two feet six inches.

If you have them to spare, use a stake to each, in preference.

As fast as they bloom, throw away the worthless ; save nothing a single day that is not decidedly better than we possess, or as good, and different.

When the best of the bloom is over, and September frosts threaten, earth up all you care about, at least one foot.

The sooner they are out of the ground after a frost the better ; the stems cut to six inches, and dried in the shade, stems downwards.

CULTURE OF THE CHRYSANTHEMUM.

THE more dwarf you can bloom these plants the better. Their awkward habit has to be overcome to make tolerable.

In July take off all the tops of your plants at the third or fourth joint; cut close up to the joint and strike them under a bell-glass.

When well rooted, pot them singly in sixty-sized pots, with half loam from rotted turves, and half peat earth.

Stand them out of doors, on a hard bottom, and see that they never flag an instant for want of water.

As soon as the roots reach the sides of the pot, change to forty-eights; again from forty-eights to thirty-twos, in which they should bloom.

Do not remove the pots from out of doors till September, and then have them close to the glass, and give all the air you can in mild weather.

Meanwhile, the plants that have been topped will have broken out with a greater number of shoots.

These are fit for the borders, if they are not already there; for the tops of out-of-door plants are as good as others.

Even large plants ought to be brought up out of doors; it is only for the sake of protecting and prolonging the flowers that we put them under glass.

Roots will part into many pieces, with a shoot to each; and cuttings may be struck any time.

For fine specimens take off cuttings in November and December, and strike them in cold frames; as soon as they begin to grow take off the tops. Continue taking the points off the shoots, and shift as often as the roots grow and reach the side. They will, in time, be very large and bushy.

GROWING SPECIMEN PLANTS.

STUDY the habit of your plant ; if shrubby, grow it self-dependent ; if pendulous, make it a standard ; if trailing or climbing, grow it accordingly.

To grow a pendulous plant as a shrub, so as to require support, is unprofessional ; grow it as a standard, and the pendulous habit is shown to advantage.

Grow shrubby plants slowly, but strong ; take away all weak branches, stop all shoots in time, let no branches cross each other.

Whatever is unnatural is bad ; it is as ridiculous to grow a trailing plant up a trellis as it is to let a climbing plant hang about.

Remember that rich compost and heat excites rapid growth, and that rapid growth makes long joints and scanty foliage.

Plants naturally long jointed should be checked as soon as possible in the growth, and others naturally short jointed should be kept growing.

All plants require rest, and the time to give it them is when they have completed a season's growth.

The way to rest a plant is to put it in the coolest place, and give no more water than will just keep it alive, until it indicates growth again.

Plants should always be shifted as soon as the roots fill the old pots, no matter what time of year.

All plants whose pots are full of roots, when they begin growing after rest, should be shifted immediately.

Trailing plants should hang over their pots all round ; climbing plants should be trained in the form of trees.

Of shrubby plants, none but ill-grown and ill-managed ones require more than a centre stake.

Climbing plants should be trained in their places *daily* ; if neglected, they make their growth the wrong way, and never properly recover.

Every branch that is stopped gives out two or four new ones ; bear this in mind when plants are young.

Many plants will grow handsome if not grown too fast ; but which, if excited, grow lanky and weak, and want props.

CULTURE OF THE HYACINTH.

THE Hyacinth grows best in the open air, on one-third loam from rotted turves, one-third decomposed cow-dung, and one-third sand.

Plant three inches deep, and six inches apart, in beds four feet wide, and alleys fifteen inches to walk on.

If you want to grow the bed in diversified colours, make some kind of arrangement before you plant.

You need not protect them against frost, wind, wet, or sun, until the spikes of buds show.

Cover them against all extremes until the bloom is over, when they should have all the weather.

If you do not want seed, cut off all the pips before they can begin to swell their pods ; if you want seed, let them alone.

Let Hyacinths be in the ground, or in pots, or in water, before you can see any symptom of growth or swelling of the root.

Pot and glass in October, and keep them in a cellar, or at least in the dark, where it is dry, and free from frost, until the end of November.

The roots will have made themselves, and both pots and glasses may be either forced or allowed to grow naturally.

As soon as potted or glassed Hyacinths are past bloom, plant them all in the open borders or beds, the potted ones without disturbing the balls of earth.

The glass bulbs must be laid against a slope, the roots spread and carefully covered, two inches above the bulb.

Sow seed in pans or pots in November, and take up every year as the grass turns yellow.

Replant at the beginning of October, and continue it till they bloom, which will be in four or five seasons perhaps.

Carefully preserve all bulbs, young and old, while they are in store, lest damp, or frost, or heat should hurt them.

CULTURE OF THE BALSAM.

Sow seed on light rich earth, part in March, April, and May, and put it in the stove or hot-bed.

When up, and before it has the second leaves, prick them out singly in thumb-pots, and keep them near the glass.

As soon as the roots fill these, change them to sixties, and from sixties to forty-eights.

As soon as the forty-eights are full of roots, change to thirty-twos, and ultimately to twenty-fours, sixteens, and even larger.

Always keep as near the light as possible, give them as much air and heat as possible, avoid drawing them up by shading.

When they begin to open their flowers shade them from the heat of the sun, and give them plenty of room, for if placed too close they will draw.

The seed of balsams is pretty constant, if you keep them together in distinct colours.

As soon as you can see any of them semi-double or single, turn them out from the best plants ; let none but the best occupy the best places.

The Balsam continues growing as long as you pick off the buds ; the first should always be picked off until they come on the side branches.

CULTURE OF THE GERANIUM.

USE moderately good soil, but no nostrums. Loam from rotted turves, dung from an old hot-bed, well decomposed, and peat earth, equal parts, will grow them well.

Pot struck cuttings, or the small plants that you buy as soon as you get them; use forty-eight sized pots, pot them as low as the bottom leaf.

Take off the tops, or pinch them out, so that only the two pair of bottom leaves are left on. These will throw out three or four shoots.

As soon as these shoots grow two joints or three, pinch out the end buds, and it will cause other laterals to grow.

Change the pots as soon as they are full of roots to size thirty-two, and if necessary to dwarf them, sink them lower in the pot.

Now merely pinch out the ends of such roots as seem inclined to take the lead, and so keep your plant in form.

All this time let them be in the greenhouse, or if the weather permit, out of doors.

When they are pushing for bloom, they must be placed close to the lights, inside the house, where they can have air.

Have a shade for the house, so that during the bloom they may be protected from the extreme heat of the sun.

After the bloom is over, set them out of doors, and when they are a little hardened, which will be the end of June or in July, they may be cut back.

In pruning the Geranium, cut it back to a good shaped skeleton, which will break into a bushy plant.

Put the cuttings in, under a hand-glass, in the common border, where they can be shaded; keep them moist and cover them.

The old plants may be trimmed at the roots, if necessary, and re-potted in the same or larger pots.

In September they may be all placed in the house, and the struck cuttings potted as directed at first.

If you save seed, let the plants you wish to save from be placed together out of doors, and be well watched and watered.

Sow the seed at the beginning of the year, and when up prick them out round the edge of a pot, an inch or an inch and a half apart.

When they have grown large enough, pot them singly, and treat them as you would struck cuttings.

CULTURE OF THE FUCHSIA.

Grow this plant slowly. If excited, it cannot bear its own weight, and becomes an ungainly object, requiring sticks and ties to hold it in its place.

When you first obtain your plants, which will be generally little more than struck cuttings, put them in pots very little larger than will take the roots.

Use one-third loam and two-thirds peat, and if you want close bushy plants, take off the tops.

Top any shoots that appear to take the lead in the growth, and generally keep your plant in shape by timely stopping vigorous shoots.

Keep them always in a cool house, give them plenty of room, plenty of air and water.

If the habit of any plant be weakly or pendulous, grow it as a standard, that the branches may hang gracefully.

Grow no varieties that require sticks to support them; such additions are unworthy of plant growers.

Cuttings strike freely under a bell-glass, at every season of the year; in summer on a shady border, in winter in a cold pit or in a greenhouse.

Shade the blooms from the mid-day sun, but they are not to be excluded from the light mornings and evenings.

Shifting from one pot to another should be only done when the pots are full of roots.

When the bloom is over, let the plants rest, and give no water, except once or twice during the whole winter.

As soon as they indicate growth again by the buds swelling, spur the plants; make allowance for the growth of new wood, and prune the plant, so that it will grow to a good shape.

If placed in the open air as soon as the weather will permit, the plants grow all the stronger for it: far the most handsome for autumn shows.

CULTURE OF THE TROPEOLUM.

This family is a family of climbers. Never attempt to grow any of them without support.

The best support is the branch of a tree, of the form of a whole tree or bush, unless for out of doors, when they may cover a wall.

Some of the most rambling and coarse may be made to cover palings or a fence, or even the front of a house.

Others, more delicate, must be grown in pots; and find for these the branch of a shrub that will of itself form a pretty object.

Tropæolum tricolor, *T. brachyceras*, *T. azureus*, as well as some others, should be grown in peat earth and loam from rotted turves, and be trained up as they grow.

These, and climbing plants generally, must be trained as fast as they grow, for if neglected they are more difficult to adjust, and never grow so well.

They may all be potted first in small pots, and changed from small to larger.

The branch or trellis must be put when they are in the thirty-two sized pot, and be removed with the plant when again shifted.

All the species are greenhouse or half-hardy, and when once established will grow out of doors.

Most strike from cuttings under a bell-glass, and form bulbs, which increase in size each season.

CULTURE OF THE STOCK.

Of all the species and varieties which are comprised in this extensive family choose the best.

Sow the seeds in boxes, pots, or pans, according to the season you require them to bloom.

When they are up let them be watered regularly, as they want it until they have four growing leaves ; then shade them and starve them until they almost turn yellow.

Now plant them in rich soil, half loam from rotted turves, one-fourth dung from an old hot-bed, and one-fourth turfy-peat.

Water profusely, but not often : the theory is that starving causes the failure of the stamens, and the substitution of petals.

Without subscribing to this, we know that the above treatment is successful with all the German varieties, the intermediates, and the biennial kinds.

They cannot be bloomed in soil too rich, so it be clean. If the common garden mould is used, fork in six-inch thickness of decomposed dung into the top spit.

Save seed from the best of the single ones among the double, because that has a strong tendency to doubleness, and is only an escape.

As soon as eight or ten pods of seed have set, remove all the rest of the plant ; let it neither grow nor bloom any more.

Bringing a single stock of a bad breed to plant among an acre of double, will not give better seed than if it bloomed alone, or with a thousand as single as itself.

CULTURE OF THE AZALEA INDICA.

THIS exceedingly gaudy family must be grown in loam, turfy peat, and dung from a melon-bed, in equal parts.

Set your small plants in a size that will only just take the roots, and give a little space all round for compost.

Drain one-fourth of the pot with crocks, and spread out the roots, with the collar just at the surface.

As the small pots fill with roots, shift the plants to larger, and if you want short stocky plants, pinch out the leading shoots.

If the habit of the plant be bushy or handsomely pyramidal, let it grow its own way.

Keep them in the greenhouse, as near the light as you can ; turn them round occasionally, and never let them flag for water.

Whenever you water, apply it till it saturates all the soil in the pot ; you then know every fibre is fed.

If the shoots are too thick, and fill up the heart of the plant too much, remove all that are in a wrong place.

When you want to grow them as standards, select those inclined to be tall, and continue taking off the lower side branches.

Keep a sort of head all the way it goes, only removing the lower ones as others come, to throw the strength of the plant into the top.

When tall enough, pinch the ends off all the shoots, to encourage lateral branches.

If these be not enough to form a good head, pinch out the ends again, and this will stimulate others to shoot.

In dwarfs, pyramids, or standards, always check any shoot that inclines to take the lead.

After flowering, and before plants make their fresh growth, use the knife; spur in all ill-shaped branches, cut freely back, so that the new growth may form a handsome tree or shrub.

The young wood taken off when an inch long, close down to the old wood, strikes freely in sand under a bell-glass.

CULTURE OF THE IRIS.

THE numerous species of Iris, which grow in the open ground, want good, rich, light soil.

Plant bulbous-rooted in October, three inches deep from the surface, and press the earth well about the roots.

Part tuberous-rooted, and plant the tubers well under ground, with one or more strong hearts to each portion of tuber.

Take up bulbous roots as soon as the tops of the leaves turn yellow.

Remove and part tuberous-rooted once in three years, not more frequently.

The free-seeding ones tempt us to sow for new varieties; but unless many sorts are grown together, there is not much hope of change.

Sow in the autumn, and when the plants come up, before the frosts are over, protect a little while young, from the sun as much as from the frost.

They may die down the first year, or at least complete their growth without being disturbed.

Plant six inches apart, in a bed of well-dressed soil, and there let them remain till they bloom.

Weeds are death to seedlings ; let not one live among them.

CULTURE OF THE AMARYLLIS.

ALTHOUGH these comprise stove, greenhouse, frame and hardy plants, there is one rule applies to all : when they have completed their growth, let them rest.

When the stove and greenhouse varieties have bloomed, and the leaves begin to turn yellow, give them no more water.

When they of themselves indicate moving, shift them carefully into new compost, and, if necessary, larger pots, and set them going.

When they are growing, water liberally, keep them near the lights, and turn the pots if they draw too much one way.

When the hardy ones have bloomed, and begin to die down, take up the bulbs and house them like others.

The stove Amaryllis may be flowered at any time, and is very easily forced ; but in a collection it is better to let them have their own way.

Many, for the sake of security against accidental watering, turn the pots on their sides ; this is neither good nor harm.

PERENNIALS AND BIENNIALS.

In planting the roots, always take care that there is a good shoot or heart to every piece of root.

In planting them out, always give plenty of room ; say for small things, six inches, larger nine, and for the largest, space in proportion.

Part the roots of Hollyhocks, Salvias, Lilies of the

Valley, Agapanthus, Chimney and other Campanulas, Violets, Daisies, Sweet Williams, Lupinus, Columbines, and such like.

Take slips from all such as do not spread their roots, as double Wallflowers, Antirrhinums, &c.

But many will seed freely, and you have a chance of new varieties ; therefore always raise seedlings if you can.

Seed of all these various families should be sown about April, May, or June ; plant them out as soon as they are large enough.

Many of these will bloom the first season, and those which are only half-hardy must be potted and kept in frames.

HARDY FLOWERING BULBS.

PLANT or remove all bulbs, when the foliage has died and before it begins to grow again.

Plant all bulbs on well-drained ground, rich in vegetable manure, and with good friable loam, but not with dung, unless it be thoroughly decomposed to mould.

All bulbs suffered to grow or spear before they are planted are generally weakened by it.

Many bulbs suffer by being left in the ground after dying down, being subject to attacks from insects ; never leave anything but Crocuses and Snowdrops a day longer than necessary.

Keep all bulbs not in the ground perfectly free from cold, heat, and wet.

Dry all bulbs well in the shade before putting them away.

Keep the surface stirred after bulbs have come up, and let not a weed get among them.

Whatever blooms are worth prolonging, should be shaded from the heat of the sun.

Almost all bulbs larger than Crocuses, Snowdrops

and Scillas, may be planted six inches apart: these three do best in patches about the borders.

Lilies and Crown Imperials are best in the borders.

Encourage hardy bulbs; they are showy, they increase without trouble, they want little or no culture.

TREES AND SHRUBS.

PLANT all kinds of trees and shrubs with the collar of the root only just below the surface.

Always loosen the ground all round, and when you plant, spread out the roots on all sides, and tread solid.

Whatever you lose by bad removing at the root, fail not to compensate for by cutting away branches.

Never put in a morsel of root that is bruised; cut every damage off clean with a sharp knife.

If you plant potted trees or shrubs with the balls matted in the pot, release it all by soaking, or some other means, and spread out the roots.

Stake every plant, so that no wind can stir it; for to be drawn backwards and forwards after good sound planting, is to break and bruise all the roots.

If the earth is not sufficiently damp when you plant, water the plants in at any sacrifice.

In pruning trees and shrubs, remember that a clean cut is indispensable; and some regard should be had to the shortening of any unruly and ill-growing branches.

The time to prune a tree is when it has settled down, as it were, after the season's growth; and before it starts again.

Attention should be paid to the probable new growth, and the old wood should be cut in to allow for this.

Layering for propagation should be performed in autumn; those which will grow from cuttings should be propagated at the same time.

Grafting for propagation should be performed in spring, when neither stock nor scion has begun to grow.

Seeds of Conifera, berries of thorns, hollies, &c., and tree seeds generally, should be sown in autumn; not too thick, because they should have their first year's growth without moving.

In planting out give ample room, nothing sooner spoils a tree than crowding; and if this be done while young, they do not get over it for years, if at all.

When they grow so as to nearly touch, replant at greater distances, or take out every alternate plant, and make a new plantation; better, however, to remove all.

THE KITCHEN GARDEN.

For a private family, have no full crops of perishable articles; rather have a succession of small ones.

Grow plenty of everything that remains in season for a time, and that will keep after harvesting.

Carrots, Turnips, Beet-root, Parsnips, Leeks, Onions, Red Cabbage, and such other crops as will last a long while in the ground, and preserve well.

Never be deficient of the various pot-herbs, salads, and such things as are of uncertain demand: they take little room.

Rhubarb will grow in the open air, and force in a cellar, or in boxes in the stoke-hole, under the stage of a house, or in any corner: never neglect it.

Garden Peas are universal favourites. Be particular in your sorts and seasons. Make provision for a continued succession. Sow a few every month, from January to June.

Beet-root is a valuable store, it will keep a long time; never neglect a crop that is so useful all the winter.

Cultivate Potatoes, both approved varieties and seedlings, with attention; and as there is great room to improve the sorts for earliness, raise some from seed.

Vegetable Marrow should be raised in heat, and *planted out in June.*

Onions, one of the staple crops of the kitchen garden, and used the year round, want regular attention.

STOVE PLANTS.

NEVER subject the plants to great changes of temperature, and always accompany high temperature with moisture.

Always shift your plants to larger pots when the roots touch the sides of the old ones.

Never use exciting composts; most stove plants would actually come to less harm in peat alone than in rich soil.

Attend daily to the training of your climbers; give air every opportunity when the temperature is high enough, but the house must not be allowed to cool suddenly.

As most plants require a little difference in their management, they must be treated of separately, as well as collectively, but never let them want watering.

THE GREEN-HOUSE AND CONSERVATORY.

GIVE all the air you can, consistent with the plants to be taken care of.

Water no more frequently than is absolutely necessary; but do it effectually when you attempt it.

Never use the fire or artificial heat when you can avoid it. The frost may often be kept out by covering.

Particular plants may require particular treatment; but none ought to be grown rapidly.

Many favourite plants deserve particular notice, and we shall refer to full instructions as regards several worth separate study.

GOLDEN RULES FOR GARDENERS.

NEVER work with bad tools. The difference between the work done in a month would buy a set of new ones.

Never give up a place to better yourself, until you are sure of the new one, and certain that it is better.

Have a place for every tool, and never leave one out of its place : or to go further, "a place for everything, and everything in its place."

Take every morsel of waste off the vegetables for the kitchen ; it is so much trouble saved to the cook, and so much manure for the garden.

Gardeners should be paid well. It is cheaper in the end to make a man easy in his mind : he does his work better when he is not pinched in his circumstances.

Gardeners should always recollect this with all the men under them—Four men at fifteen shillings per week will do more and do better than five men at twelve.

Answer all letters directly you receive them, even if you have to refuse a favour solicited.

Mind your own affairs. Let all the errors you see in other management suggest corrections in your own.

Never interfere with household matters. Supply what is asked for in the best way you can, without troubling your head about what it is for, or who has it afterwards.

Keep strict accounts of all you supply to the house ; in case of complaint, the reference may be useful.

Keep a journal of gardening, with memorandums of when everything is sown, planted, and cut or gathered at the house ; with as many other particulars as you

Never leave off work or superintending, until the hour at which the men leave off; and always be on the ground again at the hour of their coming back.

A master gardener over many men can do more good with his eyes than with his hands. Strict superintendence is more valuable than hard work.

Make every man before he goes to work perfectly understand how you wish it done. His way may not be yours, and yet both proper.

If a neighbouring gardener has failed in a crop, help him all you can with yours. It may be your case the next year.

As regards the family matters, "hear all, see all, and say nothing." You cannot then be mixed up with any household squabbles or disagreements.

Be punctual in all things. Attend appointments to the instant: rather go unprepared, or with a thing half done, than be a moment behind time.

"Begin nothing of which thou hast not well considered the end." To find we cannot complete what we begin is very awkward.

Send your employer to the best market for everything: or if left to you, let no temptation remove your dealings from those who have served well, or induce to try again if served ill.

Be careful in the matter of perquisites. Waste or excess, or good nature to others, has often deprived a man altogether of many comforts intended to be enjoyed in moderation.

Never do an act of business on a Sunday that could be done on Saturday, or Monday, without injury. Watering could always be avoided: giving air, perhaps, cannot be.

Have every tool and implement locked up on Saturday night, and never let them out again till Monday morning.

Works of necessity to prevent injury and waste are alone to be pardoned on a Sabbath. The rest is neces-

sary to all men, even if we look to nothing more serious.

Be always in the garden before the men under you. Example goes further than precept or severity.

In your evenings, read well-authenticated works on science; but gardening in particular. You will constantly learn something.

If you have reason to believe you have raised something new and good, get some disinterested sound opinion as soon as you can. We are all too partial to our own works to see the bad points.

Study well the "Properties of Flowers and Plants," and act upon them in all your judgments, whether passed upon your own or other people's subjects.

Have no concerns with evenings at public-houses. A monthly meeting of gardeners to discuss modes of practice and further mutual interests may be good.

If your employer has strange whims, humour them. If he has unreasonable expectations, let them correct themselves. Do your best: he will soon see his error.

Attend to no complaints of each other among your men, except so far as to watch vigilantly who is in fault.

Do nothing carelessly. Whatever is worth growing should be grown well, be it ever so common. If you do not like a thing enough to take pains with it, do not grow it at all.

Learn from those only who have practised what they teach. Theories laid down by persons who write from what they have read are generally false.

Never be afraid of trying experiments; every time you fail, you learn. We often derive instruction from the failure of our trials.

The most humble practical gardener can often teach you more than the most popular authors. Listen always with patience to any account of their doings.

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